

JULY 7, 1945

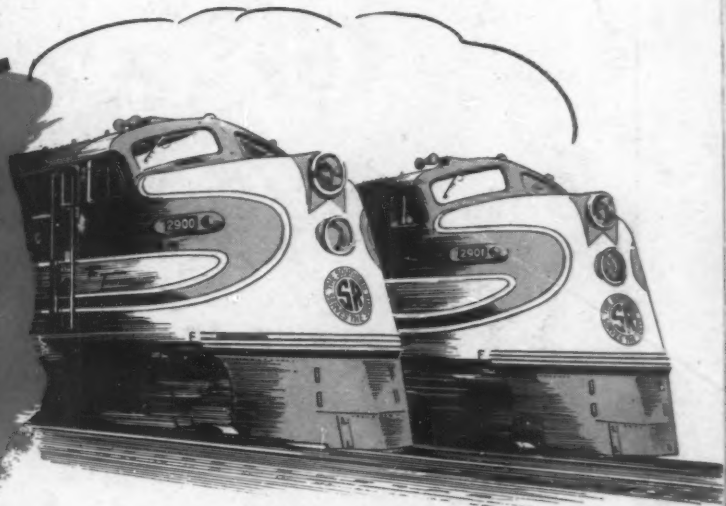
THE LIBRARY OF
CONGRESS
SERIAL RECORD

JUL 18 1945

Railway Age

Founded in 1936

803,189 miles—
100%
availability!



SETTING THE PACE for locomotive performance has been a habit of General Motors Diesels for more than a decade.

So many records in speed, economy and availability have been broken that the railroad industry has come to expect this from GM Diesels, and we treat it as a matter of course.

But now comes a new one, so far surpassing anything the railroad industry has ever known, that we believe we are justified in calling special attention to it.

A 4,000-horsepower General Motors passenger locomotive has operated 803,189 miles in

four full years of heavy passenger service without missing a trip!

Locomotive No. 2900 of the Southern Railway, assigned continuously to the Tennessean between Memphis, Tenn., and Bristol, Va., from March 1941 to March 1945* made this astounding availability record.

The companion locomotive on the Tennessean, No. 2901, during the same period completed 799,829 of its 800,937 assigned miles. Its perfect record was broken by only one missed trip due to a freak accident in which a water column chain hooked into an air inlet grille on the locomotive.

**ON TO FINAL VICTORY
BUY MORE WAR BONDS**

*When this advertisement was sent to the printer early in June 1945, No. 2900 still had not missed a trip. It is such records as this, and those of the many GM locomotives that have gone more than a million miles between major overhauls, that put this equipment high in the postwar thinking of American railroad leaders.

**YOUTHFUL
IN STAYING POWER**



**VETERANS
FOR PERFORMANCE**

ELECTRO-MOTIVE DIVISION

GENERAL MOTORS CORPORATION • LA GRANGE, ILL.

UNIT TRUCK



TF1 R2
*Ask the Man
who Knows—*

Your disbursement
auditor will tell
you--

We're not mechanics
here in the account-
ing department. We
judge a product
strictly on dollar
performance.....
and we do know that
cars equipped with
Unit Trucks are
operating more
economically.

•

UNIT TRUCK CORPORATION
140 CEDAR STREET NEW YORK, 6, N. Y.

Published weekly by Simmons-Boardman Publishing Corporation, 1309 Noble Street, Philadelphia, Pa. Entered as second class matter, January 4, 1933, at the Post Office at Philadelphia, Pa., under the act of March 3, 1879. Subscription price \$6.00 for one year U. S. and Canada. Single copies, 25 cents each. Vol. 119, No. 1.

What determines wheel costs?

Two factors—service life and maintenance—tell you the actual cost of a wheel per thousand miles. It is length of life, not the original purchase price, that determines whether a wheel is economical; whether it is giving you the most for your dollar.

On this sound basis, Bethlehem wrought-steel wheels are proving their economy for some of the nation's greatest railroads—chiefly because these wheels are less subject to the troubles that raise operating costs. Such troubles as shelling-out . . . seams . . . brake burns . . . chipped, cracked,

and broken flanges . . . cracked or broken webs.

The records prove that you cannot buy a more durable wheel than Bethlehem makes. The same is true of Bethlehem forged-steel axles. That is a point worth remembering when you are estimating replacement costs . . . or planning future equipment.



BETHLEHEM Wrought-Steel WHEELS

FORGED-STEEL AXLES

Exclusive with

JACKSON

Tampers

The **VIBRATORY** *Action*

that places ballast
more uniformly, firmly
and faster — with less
fatigue to the operator



The blow of the Jackson Universal Tie Tamper is not percussive or in one direction only, as is usual in other mechanical picks or tampers. Since the vibratory action is produced by an unbalanced weight mounted on a shaft revolving at high speed, a very powerful forward and downward tamping blow is obtained, which is followed by two sidewise vibratory actions. The latter keep the surrounding ballast in constant motion, feed the ballast to the end of the blade and prevent ballast particles from wedging underneath the tie.

Obviously this action promotes faster, better, more efficient tamping — which in a large measure accounts for the fact that JACKSON Tampers are preferred by the majority of America's leading railroads.

IDEALLY ADAPTABLE TO EVERY LIFT AND BALLAST!

JACKSON Vibratory Tampers are available with quickly interchangeable blades which provide for peak efficiency in each and every operation in which tampers are used. Write for literature describing JACKSON Vibratory Tampers and how to use them.

ELECTRIC TAMPER & EQUIPMENT CO., LUDINGTON, MICH.



IMPROVED HIPOWERS

IMPROVE TRACK

by equalizing bolt tensions; protecting rail ends and joint bars; insuring resilient joints; cushioning and absorbing shocks and stresses.

They give maximum security at minimum cost.



THE NATIONAL LOCK WASHER COMPANY, NEWARK, N. J., U. S. A.

A COMPLETE LINE OF RAILWAY SPRING WASHERS

Triple-duty 44-TONNER



THESE IMPORTANT FEATURES PRODUCE LONG LIFE, MINIMUM MAINTENANCE

1. Sturdy, all-welded cab, under-frame, and trucks.
2. Reliable railroad design, with all parts easily accessible for inspection and maintenance.
3. Four heavy-duty traction motors, self-ventilated with clean air drawn from above the locomotive platform. Motors are axle-mounted and cushioned from shock by spring-nose support.
4. Simple control, connecting two motors permanently in parallel to each generator.
5. Full battery charging at all speeds—total 3.5 kw.
6. Differential split-pole exciters, with simple magnetic circuits, which require no adjustment and hold the generator horsepower output constant throughout the normal speed range of the locomotive.



Alco



AMERICAN LOCOMOTIVE

RAILWAY ACE

PROVES ITS VERSATILITY

on 3 Santa Fe jobs

WHETHER it's switching, yard service, light road work—or any combination of the three—this 380-hp, 44-ton diesel-electric locomotive is capable of doing an outstanding job and producing annual net savings that are often 20 to 30 per cent of its cost.

Here's how three units, on three different operations of the Santa Fe, are reducing motive-power requirements through their versatility and ability to work on 24-hour daily schedules:

YARD SWITCHING

● Three eight-hour tricks a day in the Topeka yards are the regular assignments of this 44-tonner. It easily handles trains of 20 loaded cars and uses an average of four gallons of fuel oil an hour—costing about 24 cents, compared with an average fuel cost of 60 cents an hour for steam locomotives doing comparable work.

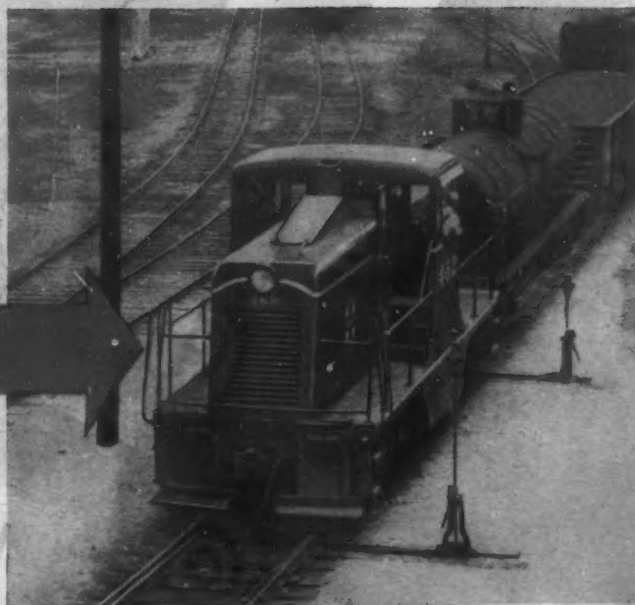
TRANSFER WORK

● In addition to its regular assignment of switching at the Fresno passenger station, this diesel-electric takes a 35-car freight train every day from the Calwa, Cal., yard three miles to Fresno. There, it breaks up the train, delivers the cars to industrial sidings, and then returns to Calwa with another train.

STATION SWITCHING

● "Y-ing" Santa Fe crack streamliners, such as the "San Diegan", is only one of the close-schedule jobs that this 44-ton unit handles at San Diego; it does the industrial switching and shop work as well. During three recent months, its availability for work averaged more than 98 per cent.

Low in first cost and low in maintenance cost, the 44-ton diesel-electric has proved to be a good investment even for one-shift-per-day operation—an even better investment when you work it more hours.



Powered for Railroad Work—Built to Last

Speed, Mph	Tractive Effort, Lbs	TRAILING TONS				
		Level	0.5% Grade	1.0% Grade	1.5% Grade	2.0% Grade
8	17,800	2016	902	570	411	317
7.5	12,300	1403	622	388	276	210
10	9,480	1091	478	285	206	154
15	6,460	734	313	188	128	92
20	4,780	516	213	123	79	54
25	3,780	398	159	88	54	33
30	3,080	315	121	63	38	19
35	2,350	233	83	39	17	5

Resistance is based on 2.5 pounds per ton.

Its utilization can be just as high as its average availability—95 per cent—because it has the versatility to take care of the entire motive-power requirements on light-traffic parts of your system.

We'd like to discuss the application of this diesel-electric with you, and work with your organization on a motive-power survey to determine the savings it can effect on your road.

191-26-0000

and GENERAL ELECTRIC

It's not done



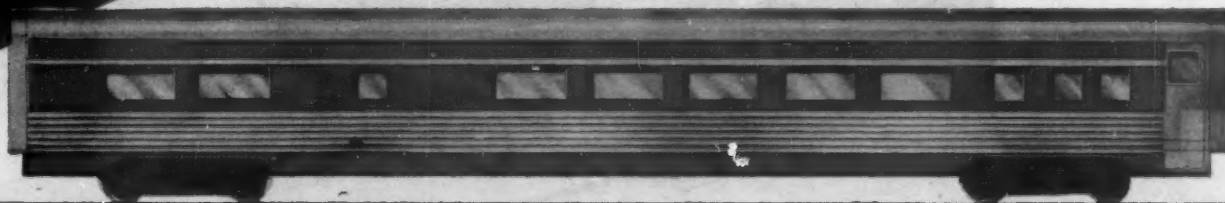
WHATEVER Q.C.F. BUILDS — IT IS KNOWN TO BUILD WELL!

with *Mirrors*

NOT mirrors but **METALS** and the all-embracing *knowledge of how, when and where* to use them most advantageously is the stuff of which superior rolling stock is made.

A.C.F., in building passenger cars, promotes no *one* metal — for no one metal meets all requirements, as every railroad knows. Carbon steel . . . aluminum alloys . . . lightweight high-tensile steels . . . there is a place for all — and **A.C.F.** is familiar with that place!

But as ever, the skill of the man at the drafting board, the sweat of the man in the shop and the vision and accumulated experience of the men in management mean more than materials utilized. It is **A.C.F.**'s contention that these comprise the surest yardstick for railroads to employ for assuring maximum worth per dollar in the streamliners of tomorrow!



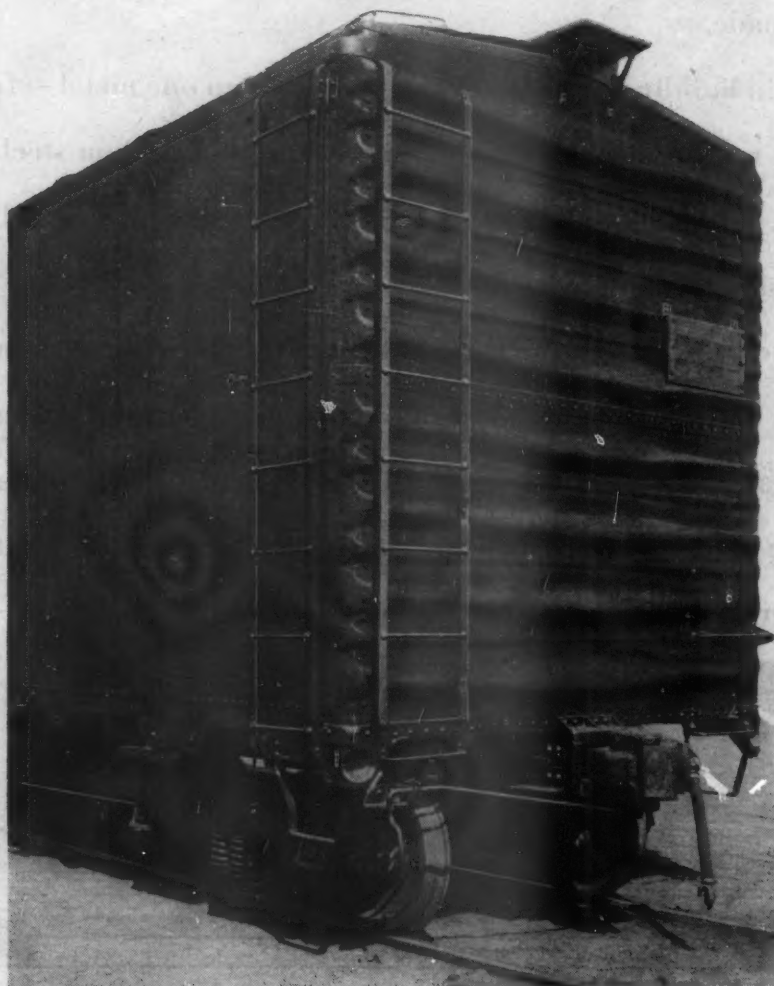
a.c.f.

AMERICAN CAR AND FOUNDRY COMPANY

NEW YORK • CHICAGO • ST. LOUIS • CLEVELAND • WASHINGTON
PHILADELPHIA • PITTSBURGH • ST. PAUL • SAN FRANCISCO

A Good

IMPROVED DREADNAUGHT END

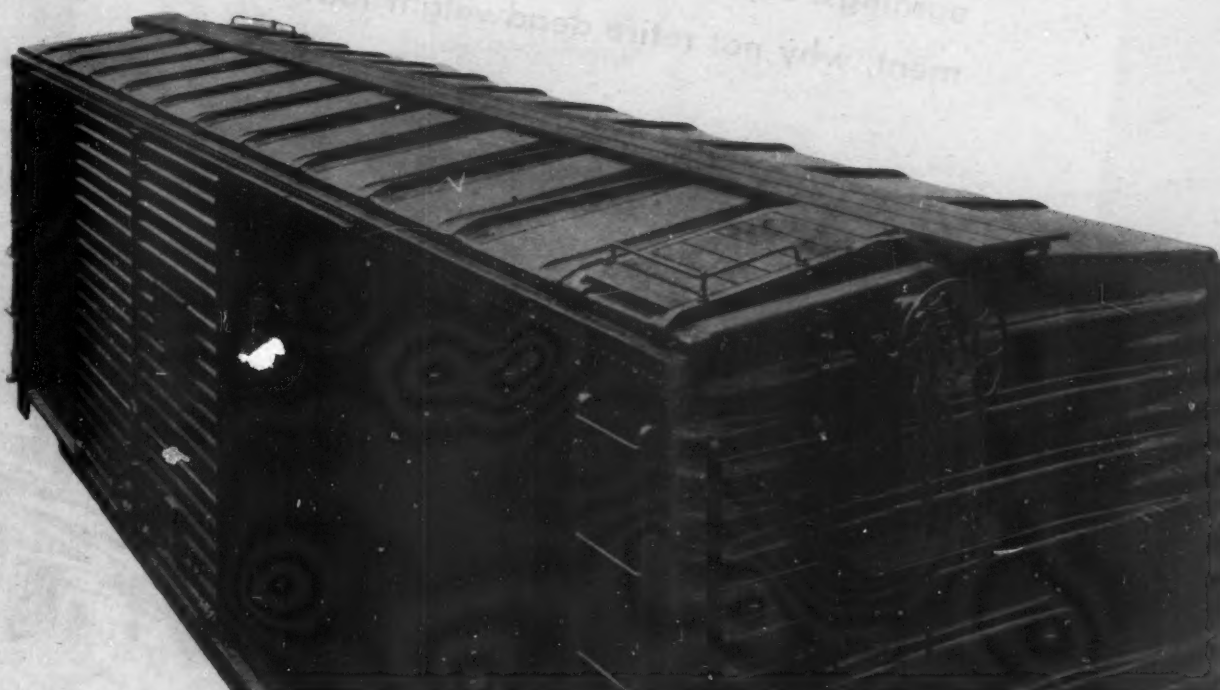


**THE IMPROVED DREADNAUGHT END IS DESIGNED TO PROVIDE
THE STRENGTH REQUIRED WITH INCREASED TRAIN SPEED AND
RESILIENCY TO ABSORB SHIFTING LOAD SHOCKS.**

AMERICAN CAR AND FOUNDRY COMPANY
NEW YORK - CHICAGO - ST. LOUIS - CLEVELAND - WASHINGTON
PHILADELPHIA - PITTSBURGH - ST. PAUL - SAN FRANCISCO

Combination

MURPHY IMPROVED RIVETED ROOF



**THE MURPHY IMPROVED RIVETED ROOF IS A STRONG,
WEATHERPROOF, DUST TIGHT COVER FOR HOUSE CARS
DESIGNED TO PROVIDE MAXIMUM CLEAR INSIDE HEIGHTS.**

STANDARD RAILWAY EQUIPMENT MFG. COMPANY

HAMMOND, INDIANA

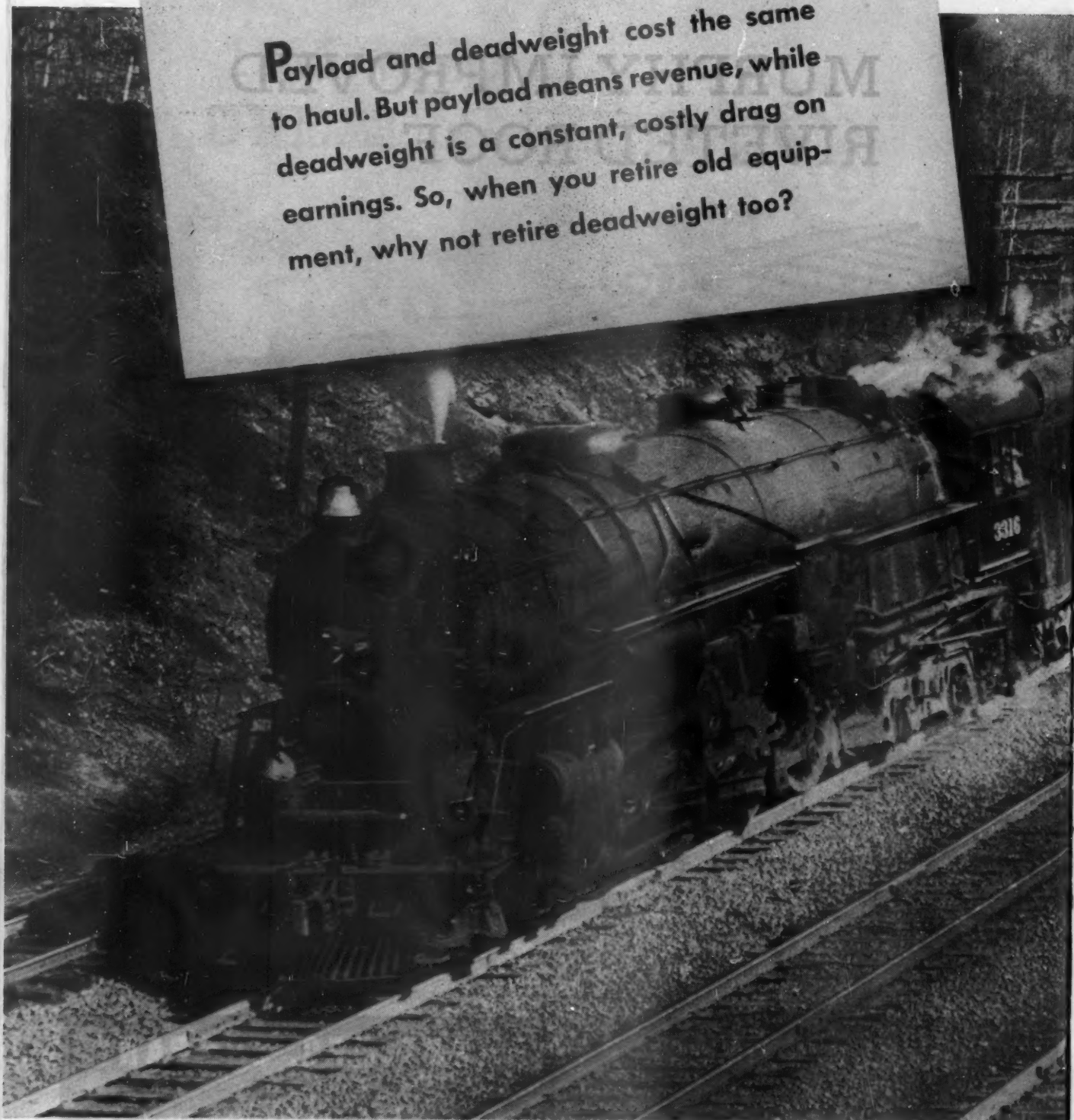
WORKS: HAMMOND, INDIANA

NEW KENSINGTON, PA.

CHICAGO OFFICE — 310 S. MICHIGAN AVE.


Deadweight pays no dividends

Payload and deadweight cost the same to haul. But payload means revenue, while deadweight is a constant, costly drag on earnings. So, when you retire old equipment, why not retire deadweight too?



UNITED STATES

.. build lighter with U·S·S COR-TEN



U·S·S COR-TEN is the logical choice for the reduction of weight in railway equipment. This pioneer, low-alloy high strength steel was especially developed to match the requirements posed by transportation engineers who more than a decade ago had become convinced that excessive deadweight in their equipment was economically unsound.

WHEN we asked leading railway engineers what they needed to provide lighter, more efficient designs — that would sacrifice nothing in maintenance costs, service life or safety — their answers were virtually identical.

First of all they wanted *greater strength*, that by permitting a decrease in section would reduce weight. (U·S·S COR-TEN'S minimum yield point of 50,000 p.s.i. is one and one-half times that of plain structural steel.)

They next demanded increased corrosion resistance to offset reduction in section thickness. (U·S·S COR-TEN'S resistance to atmos-

pheric corrosion is 4 to 6 times that of plain steel, is 2 to 3 times that of copper steel.)

Then they wanted a composition that, in the as-rolled condition, would form easily, hot or cold, that could be readily welded without heat treatment and without annealing or stress-relieving. (U·S·S COR-TEN meets all these requirements. It fabricates readily and can be handled on the same equipment as carbon steel.)

Finally they wanted a steel of relatively low cost. (U·S·S COR-TEN'S initial cost per pound is less than 50% higher than plain carbon steel. But, by skillfully lightened

design and the proper fabricating methods the cost of the finished structure is, in many instances, little if any more. In some cases it actually costs less in terms of tons capacity.)

It is because it so ideally fills the difficult requirements of economic lightweight construction that more than 51,000 freight cars of all types, and some 3,000 passenger units have been built lighter with U·S·S COR-TEN. Our intimate association with the builders of this equipment enables us to place at your disposal an unequalled experience in lightweight construction that your engineers are sure to find helpful.

AMERICAN STEEL & WIRE COMPANY, Cleveland, Chicago and New York
CARNEGIE-ILLINOIS STEEL CORPORATION, Pittsburgh and Chicago
COLUMBIA STEEL COMPANY, San Francisco
NATIONAL TUBE COMPANY, Pittsburgh
TENNESSEE COAL, IRON & RAILROAD COMPANY, Birmingham
United States Steel Supply Company, Chicago, Warehouse Distributors
United States Steel Export Company, New York



STEEL

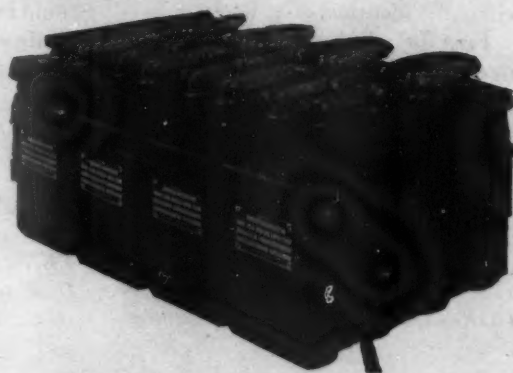


HUNDREDS OF THOUSANDS OF PEOPLE WILL RIDE ON EXIDE-EQUIPPED TRAINS...

Every night, the number of passengers traveling on Exide-equipped trains equals the population of a large city. And the amount of electric current which Exide Batteries supply for car lighting, air-conditioning and other services equals that of a powerful central station.

Exide Batteries have been chosen by most railroads for these important duties because they have the extra power and ruggedness required for today's more exacting needs. They keep compressors running smoothly and lights glowing strong and steady, even during long stops.

Since 1891, Exides have been serving America's railroads with dependability, long-life and ease of maintenance. When you buy an Exide, you *Buy to Last*.



Exide
BATTERIES

THE ELECTRIC STORAGE BATTERY COMPANY, Philadelphia 32
Exide Batteries of Canada, Limited, Toronto

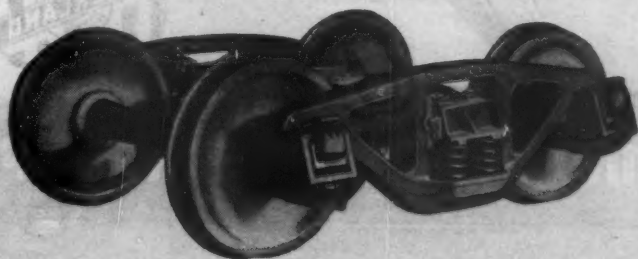
11,000 car sets of the
A.S.F. Ride-Control Truck
(A-3) are already in service
or on order for 23
railroads and car owners
for applications ranging
from box-express* to
hopper cars.

MINT-MARK OF  FINE-CAST STEEL

* These cars often exceed 100
m.p.h. Some have gone over
100,000 miles.



A.S.F. Ride-Control TRUCK

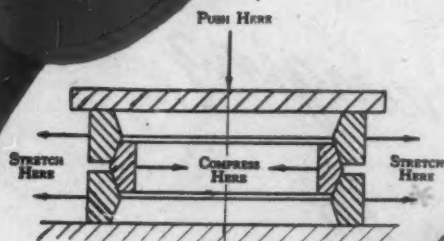


LONG SPRING TRAVEL • CONSTANT FRICTION CONTROL

AMERICAN
STEEL
FOUNDRIES

CHICAGO

Edgewater



PRINCIPLE OF THE RING SPRING



EDGEWATER STEEL COMPANY • PITTSBURGH, PA.

Edgewater

DRAFT GEARS

SMOOTH ACTION

through EDGEWATER'S exclusive
RING SPRING PRINCIPLE

THE ability of a draft gear to give constant full protection to car and lading depends on smooth action. The backbone of the Edgewater B-32-KA draft gear, a lubricated ring spring, assures smooth cushioning of all blows under every condition.

Force closure diagrams, made during A.A.R. sponsored tests, clearly demonstrate the smoothness of Edgewater gears. Service in your own cars will corroborate the laboratory results.



Atlanta, Ga. Baltimore, Md. Boston, Mass. Chicago, Ill. Cleveland, O. Kansas City, Mo. Louisville, Ky. New York, N.Y.
Philadelphia, Penna. St. Louis, Mo. St. Paul, Minn. San Francisco, Calif. Seattle, Wash. Washington, D. C.

A MILLION MILES

...new months ago also is...
...ize in such cases. Chief Magis-...
...trate Henry H. Curran would not...
...The central court, for the trial...

GENERAL CABLE CORPORATION'S ST. LOUIS PLANT CELEBRATES RECORD WIRE PRODUCTION ACHIEVEMENT



The MILLIONTH Mile of Field Wire

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More than twenty months of inspired war effort on the part of the Men and Women Employees of the St. Louis Plant of General Cable Corporation were crowned today with gratifying success when the millionth mile of critical field communication wire, single conductor, rolled off the production line ready for shipment to our armed forces overseas.

This notable General Cable achievement, one of the most significant accomplishments in the production of a vital war material to be achieved in the St. Louis area and unequalled in performance in any communica-

tion wire plant in the world, marks an epochal milestone in the production of field wire which began in the local plant in October, 1943.

More than four thousand employees working on an average of fifty-two hours per week in three shifts, seven days, are engaged in meeting the urgent requirements for field wire of the United States and its allies. Current production is running in excess of four thousand miles per day or, putting it another way, approximately five times around the globe once a month.

In commenting on the production feat of the local organization, Mr. Dwight R. G. Palmer, President of General Cable Corporation stated, 'Though the performance of our St. Louis Plant was accomplished in the ordinary line of duty, Management nevertheless is particularly gratified that its personnel, comprising all races, creeds and colors, harmoniously evidenced their patriotic sincerity by establishing this outstanding record. We salute the Men and Women of our St. Louis Plant for this production achievement'.

a very great need to conserve and that is now

in preparation of income tax returns. Ordinarily the O. P. A. must complete its prosecutions within one year after bringing charges.

company contrasts sharply with the record of delays in the program for production from

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OF FIELD WIRE...

Just one example of
General Cable's Service to
the Nation and its Allies

This output of *one million miles of single conductor communication wire* for the armed services represents the *all-out* effort at *only one plant* producing enough wire to encircle the globe five times each month.

All ten General Cable plants have been working three shifts, seven days per week, on this and other essential military items.

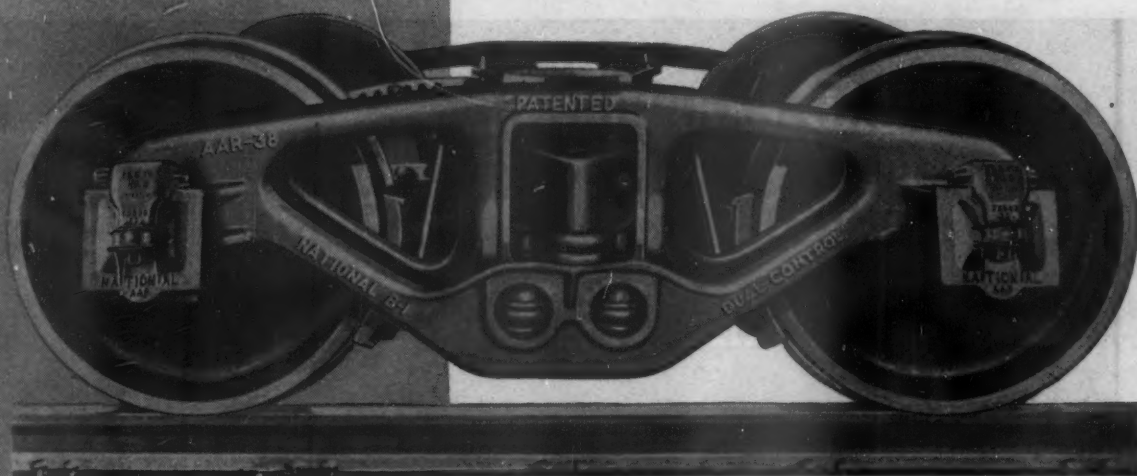
Come final Victory, General Cable will as energetically attempt to do its part in winning the peace.

GENERAL CABLE CORPORATION

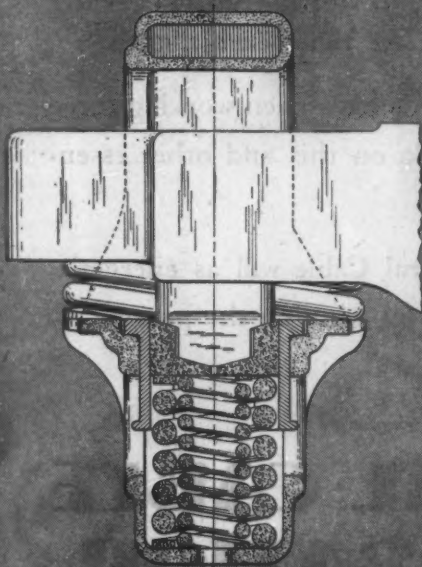


*Manufacturers of Bare and Insulated Wires and Cables
for Every Electrical Purpose*

A Smooth Ride



Springs are protected.
Spring Plates are eliminated.
Maintenance cost is low.



Section Thru Control Unit
Two Control Units in each frame

Full protection of cars and lading, rails and road-bed, is essential for economical railroad operation.

• A smooth riding car relieves the car and contents from damaging vibrations and shocks, reduces wear on track and car structure, and greatly lengthens the life of equipment.

The National B-1 Truck is equipped with four built-in friction units which control both vertical and horizontal oscillations. No separate snubbers are necessary.

The frictional snubbing action is governed by the load carried, thus assuring a smoother riding car whether light or loaded.

Specify National B-1 Trucks with Dual Control
They meet all A.A.R. requirements

NATIONAL MALLEABLE AND S

Sales Offices: New York, Philadelphia, Chicago, St. Louis, San Francisco
In Canada: Railway & Power Engineering Corp., Ltd., Toronto, Montreal

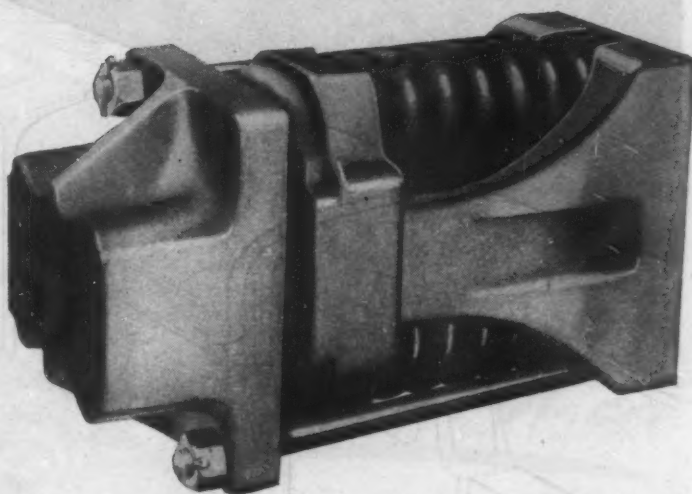
Light or Loaded

Millions of dollars are paid out each year for damage claims, of which a large percentage is due to inadequate draft gear protection.

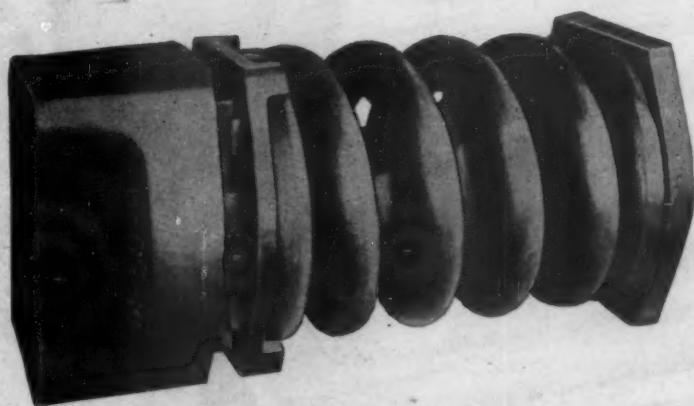
National Friction Draft Gears were designed to afford maximum protection to cars and lading, by absorbing the shocks and blows incident to train operation.

Smooth starting action coupled with high ultimate capacity allows these gears to absorb gradually the heaviest blows with the least shock to equipment.

This more efficient protection of cars and lading not only reduces damage claims, but also shows a noticeable reduction in car maintenance.



Type M-17-A—22 $\frac{3}{8}$ " long



Type M-50-B—20 $\frac{1}{8}$ " long

**Draft Gears
A. A. R.
Approved**

**76 Years Service
to Transportation**

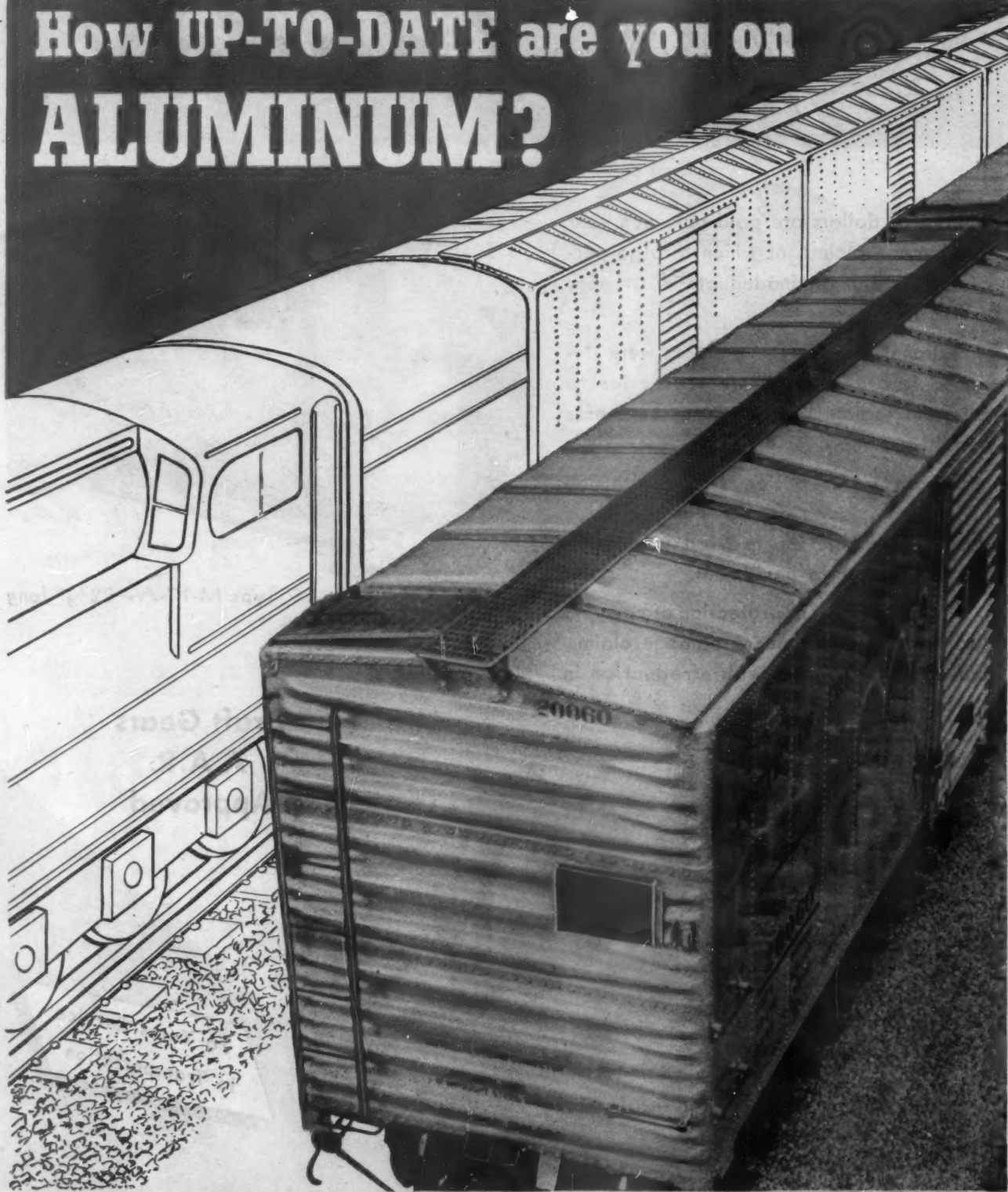
Specify NATIONAL Draft Gears for efficient, economical service.

STEEL CASTINGS COMPANY

Works: Cleveland, Chicago, Indianapolis, Sharon, Pa., Melrose Park, Ill.

General Offices: Cleveland, Ohio

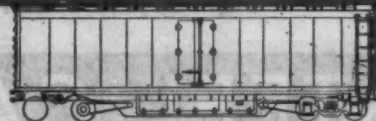
How UP-TO-DATE are you on ALUMINUM?



50-TON, 3-HOPPER CAR. Aluminum body. Length: 36'0" over striking castings. Designed by Reynolds. Approved by A.A.R.



LAYOUT DESIGN OF "DAY-NIGHT" Passenger coach developed by Reynolds. Seats 54, sleeps 54 passengers. Width: 10'0" over framing. Length: 73'6" over body end posts; 79'2" over pulling faces of couplers.



REFRIGERATOR CAR. Designed by Reynolds. 14,000 lbs. lighter. Uses less ice, permits faster shipping. Length: 44'10" over pulling faces of couplers.



REYNOLDS-DESIGNED ALUMINUM BOX CARS . . .

*A. A. R. for high-speed symbol
train service anywhere in U.S.*



From Reynolds great new plants come millions of pounds of R301, the tough new armor-plate alloy developed by Reynolds metallurgists. This same battle-tested alloy now brings a strength-weight factor never before achieved in railway rolling stock.

A. A. R. APPROVED! Here is a revolutionary new box car that is welcome on railroads all over the country. Built from the floor up *entirely of aluminum* . . . framing, outside sheathing and roof of R301, the new tough battle-tested Reynolds alloy that combines light weight with great structural strength equal to many types of steel.

What's more, these cars are lighter than conventional cars and when equipped with A. A. R. approved trucks for passenger service can be cut into trains with speed in excess of 85 m.p.h.

Cars for freight service have reduced weight up to 9000 pounds, pull easier, resulting in savings of fuel for train and switching service and increased pay load.

Aluminum's superior corrosion-resistance brings longer life and lower maintenance costs. Thanks to great new Reynolds lightweight high-strength alloys, improved car designs are now practicable for *all* types of rolling stock.

Reynolds Railway Supply Division invites inquiries . . . Blueprints available. **Consider Aluminum . . . Consult Reynolds.**

Reynolds Metals Company, Railway Supply Division, 310 South Michigan Boulevard, Chicago 4, Illinois.



REYNOLDS

*The Great New
Source of*

ALUMINUM

ROD • SHEET • SHAPES • WIRE • RIB • BAR • TUBING • CASTS • JOINTS • FASTENERS • COIL • CROWBAR

**This Improved
AO
DURAWELD
GOGGLE**



GIVES WELDERS GREATER COMFORT

Here are the technical advantages of this new Duraweld Goggle.

Newly designed lightweight acetate eyecups—individually moulded for the right and left eye—have larger edges rounded to fit flush against the contour of the face. This assures new comfort and all-around protection.

Noviweld filter lenses help the welder see the rod and bead clearly at all times. Re-designed side shields provide greater area of ventilation, thus maintain clear working vision by keeping eyes cool, lenses from fogging. Side shields are light-proof, too, guard against stray sparks of flashes. New curved nosepiece assures a more comfortable fit, AO's all-elastic headband helps keep goggles in correct position.

Let your AO Representative show you other advantages of this improved goggle that comes equipped with either 50 mm. Noviweld, Filterweld, Noviweld-Didymium or Calobar lenses in a wide range of shades. Call him today.

American Optical
COMPANY
SOUTHBRIDGE, MASSACHUSETTS

AMCRECO TIES



Part of tomorrow's...
plan for low service cost!

AMERICAN CREOSOTING COMPANY

INCORPORATED

COLONIAL
CREOSOTING
COMPANY
INCORPORATED



GEORGIA
CREOSOTING
COMPANY
INCORPORATED

ADDRESS INQUIRIES TO CHICAGO, ILL., OR LOUISVILLE, KY.

TIES • POLES • PILES • TIMBER

*It won't be over till he's
back from over there*



SIX tons of freight on the beachhead — and another ton coming through every month — that's what it takes to keep him and every other American fighter out there in the Pacific.

And this summer millions of others are on the way to join him — moving clear across the continent and halfway round the world to finish a gruelling, stepped-up job that demands

more and more help from all of us.

So day and night you are seeing the greatest westward movement of passengers and freight in history — a movement that, since victory came in Europe, has changed in direction but not in volume.

Passenger cars are needed for the fighters who *must* travel —

while every freight car must be loaded quickly, emptied promptly and hurried back to work.

The job is to “*keep ’em rolling.*” The railroads still need the cooperation of shippers, of travelers, of the armed services, of the government — the superb cooperation which has so vitally aided in doing the toughest transportation job ever tackled.



AMERICAN RAILROADS

ALL UNITED FOR VICTORY



SANTA FE's new, high-level Topock Bridge replaces an old through-truss cantilever crossing of the Colorado River. The old bridge (not shown) is located at the extreme right end of the curving alignment of the low-level roadbed in the foreground. The new, ballasted-deck structure consists of three, 350-foot deck truss spans over the main channel with plate girder approaches to the east and west, respectively 150 and 300 feet long. The steel superstructure was fabricated and erected by American Bridge Company.



IMPRESSIVE ENGINEERING FEAT... *removes a "bottleneck"*

THE new Colorado River Crossing of the Atchison, Topeka and Santa Fe near Topock, Arizona, is one of the outstanding bridge construction projects of recent years. This modern, double-track bridge, replacing a 55-year old single-track structure, now speeds vital traffic to California's ports of war.

Built in the days of lighter rolling stock and slower speeds, the "old-timer" was twice reinforced to meet progressive increases in loadings. But this single-track link in an otherwise double-tracked line, formed a "bottleneck" on a railroad which handles an important share of the record burden of transcontinental war-time traffic.

The new Topock Bridge eliminates the "bottleneck." Its design and construction embody engineer-

ing developments that contribute to permanence and to the strength and ruggedness necessary to meet today's and tomorrow's heavy power, traffic density and high speed operations. It is the major element of a greatly improved roadbed alignment which reduces by some 327 degrees in central angle the amount of total curvature inherent in the older line.

The developments and accomplishments of war-time "railroading" will be influencing factors of post-war competition. And transportation projects such as this Topock Bridge point the way to the coming job of roadbed rehabilitation. When the railroads' post-war jobs shape up, American Bridge will be prepared with vastly greater resources and experience, to meet their every structural need.



AMERICAN BRIDGE COMPANY

General Offices: Frick Building, Pittsburgh, Pa.

District Offices in: Baltimore • Boston • Chicago • Cincinnati • Cleveland • Denver • Detroit
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Columbia Steel Company, San Francisco, Pacific Coast Distributors United States Steel Export Company, New York

UNITED STATES STEEL

MINER

Friction Draft Gears

STURDY IN CONSTRUCTION

POSITIVE IN ACTION

ABSOLUTELY RELIABLE



W. H. MINER, INC. CHICAGO



ALUMINUM CHAIRS FOR RAILROADS

Designed by Pullman-Standard Car Mfg. Co., this chair was especially built for them by General Fireproofing Co.

New comfort and beauty are featured in the chairs of Alcoa Aluminum made by General Fireproofing Company especially for use in railroad cars.

They are not only attractive, but they are lightweight, too. They will be easy for passengers to move—convenient for crews to stack. And most important to the railroads, they are durable.

These modern, lightweight chairs attracted unusual attention and many favorable comments when they were shown in the Pullman-Standard exhibit "Tomorrow's Trains Today".

ALUMINUM COMPANY OF AMERICA, 2178 Gulf Building, Pittsburgh 19, Pennsylvania.

ALCOA ALUMINUM



**MOTOR DRIVEN COMPRESSOR
INTEGRAL WITH FORGING
HAMMER . . . AN INDE-
PENDENT, SELF-CONTAINED
CHAMBERSBURG HAMMER**



"AN UNUSUAL AMOUNT OF FORGING WORK DONE IN A SINGLE HEAT"

THE Chambersburg Pneumatic Forging Hammer shown above is operating in the Locomotive Shop of a well known railroad.

The shop supervisor states the flexibility and speed of

operation permit an unusual amount of forging work to be done in a single heat. Also the necessity of running a steam line to the blacksmith shop is avoided as it plugs into the nearest electric out-

let. It can be located wherever convenient. It starts instantly and strikes a constant number of blows, heavy or light, at the will of the operator. A new bulletin, No. 1275, is now ready.

CHAMBERSBURG ENGINEERING CO., CHAMBERSBURG, PA.



CHAMBERSBURG
HAMMERS · CECOSTAMPS · PRESSES



CAN IT BE MADE BETTER FOR LESS?

Weatherhead

Solving Problems for Industry

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ERMETO FITTINGS

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Q-A HOSE END
FITTINGS

★
BRAISED STEEL
FITTINGS

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HYDRAULIC BRAKE
LINES AND
BRAKE FITTINGS

★
FIRE-RESISTANT
HOSE ASSEMBLIES

★
THE WEATHERHEAD
SEAL

Legion are the manufacturers looking for new and improved ways to build new and improved products for the coming peacetime markets.

Here at Weatherhead we build the parts that go to make up such products. And ever since 1919 the growing number of Weatherhead research, design and production engineers have been creating parts of greater demonstrated uniformity—dependability—efficiency—parts that have become a "must" in many a plant . . . lowered the cost of many a product! They are parts that *work better and still cost less.*

One of many examples:—the new Weatherhead "Quick-Attachable" (Q-A) hose end fittings have proved a boon to aviation mechanics everywhere. They are assembled with equal ease in shop or field, without special tools, with tremendous saving in installation time. They are reusable and have almost limitless applications in other fields.

If the parts for your coming peacetime products can be made "better for less," Weatherhead engineers will know. Write our Sales Engineering Department today for assistance in solving your problems.

Look Ahead with



FREE: Write on
company letter-
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24-page illustrated story of
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products ready to serve you.



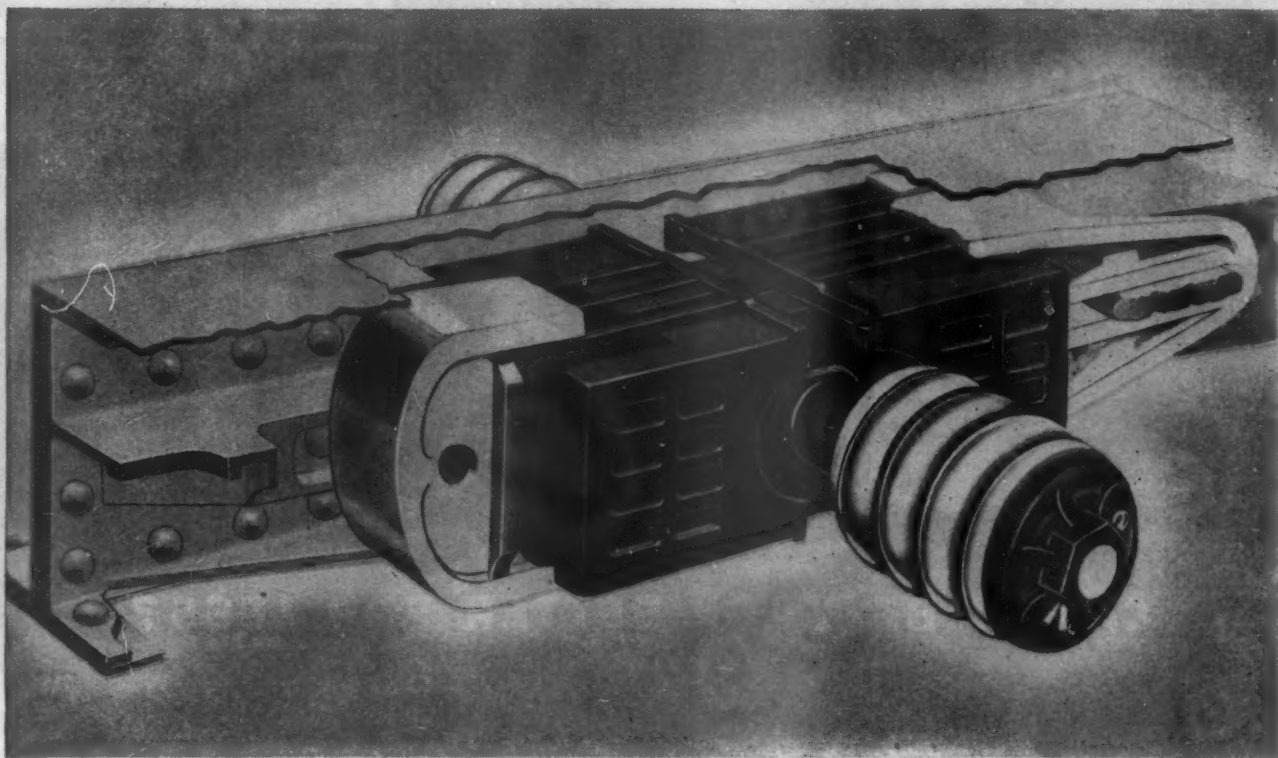
Weatherhead

THE WEATHERHEAD COMPANY, CLEVELAND 8, OHIO

Plants: Cleveland, Columbia City, Ind., Los Angeles
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Don't "Pass the Shocks"

to the Couplers, Underframe, Car Structure and Loadings



Cardwell Friction Draft Gears

Absorb and Dissipate Shocks at the Couplers

Modern Friction Draft Gears protect the entire car and lading from coupler to coupler . . . from rail to roof.

Over 98% of the cars in freight carrying service are A.A.R. construction, and over 96% have Friction Draft Gears.

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Prepared by VAN AUKEN & RAGLAND Advertising

Assembly TIME SAVERS!

ARO

Pneumatic
NUT SETTERS and
SCREW DRIVERS

Model 131 Impact Wrench.
 $\frac{1}{4}$ " to $\frac{3}{8}$ " capacity. Reversible.

Model 106 Impact Wrench.
 $\frac{1}{4}$ " capacity. Reversible.

Make your time-studies *now* on nut-setting and screw-driving operations with ARO Pneumatic Tools! Note the speed and big power of these small tools—with light weight that means less fatigue on assembly jobs!

Whether it's ARO Impact Tools designed with Controlled Torque... or other ARO models for all types of small tool jobs... you can count on ARO Performance to keep costs down and production UP! Write for catalog. The Aro Equipment Corporation, Bryan, Ohio.

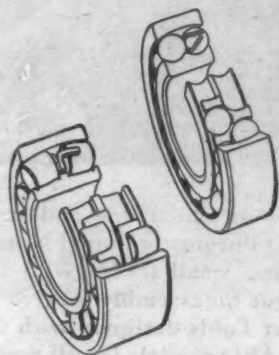
Model 1011 Impact Screw
Driver and Nut Setter shown
with No. 2 Phillips bit. $\frac{1}{4}$ "
capacity.

Model 22LPH Straight
Type Nut Setter.
Lever throttle. Capac-
ity $\frac{1}{4}$ ".

Model 22PAH Pistol Grip
Nut Setter. Capacity $\frac{1}{4}$ ".

ARO

PNEUMATIC TOOLS



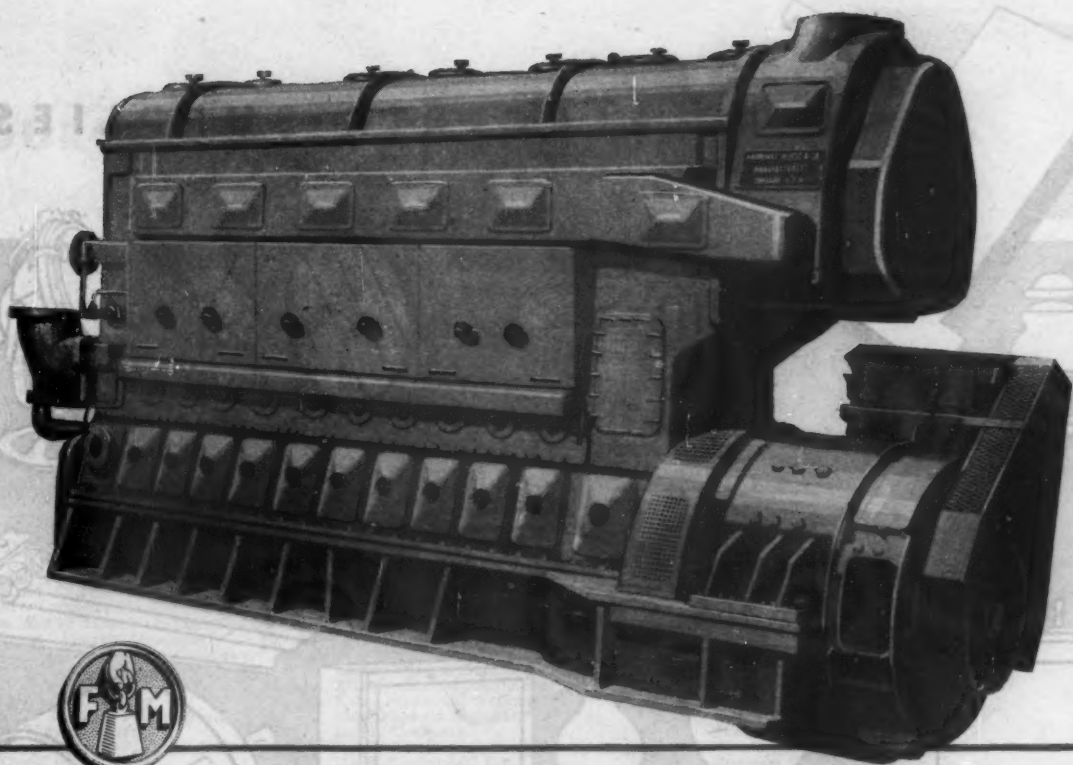
Bearings are "at war"!

Thank you, railroads, for the efficient job you are doing in transporting men and equipment from border to border and coast to coast. We at SKF know you've earned high tribute from a grateful people. We also know that much of your rolling stock needs new bearings. We thank you for realizing that *our* production, too, is "at war" . . . that the time has not arrived when we can supply you with all the SKF Bearings you want. Some day—soon, we hope—that time will come.

5841

SKF INDUSTRIES, INC., PHILA. 34, PA.

SPECIFY
SKF
BEARINGS



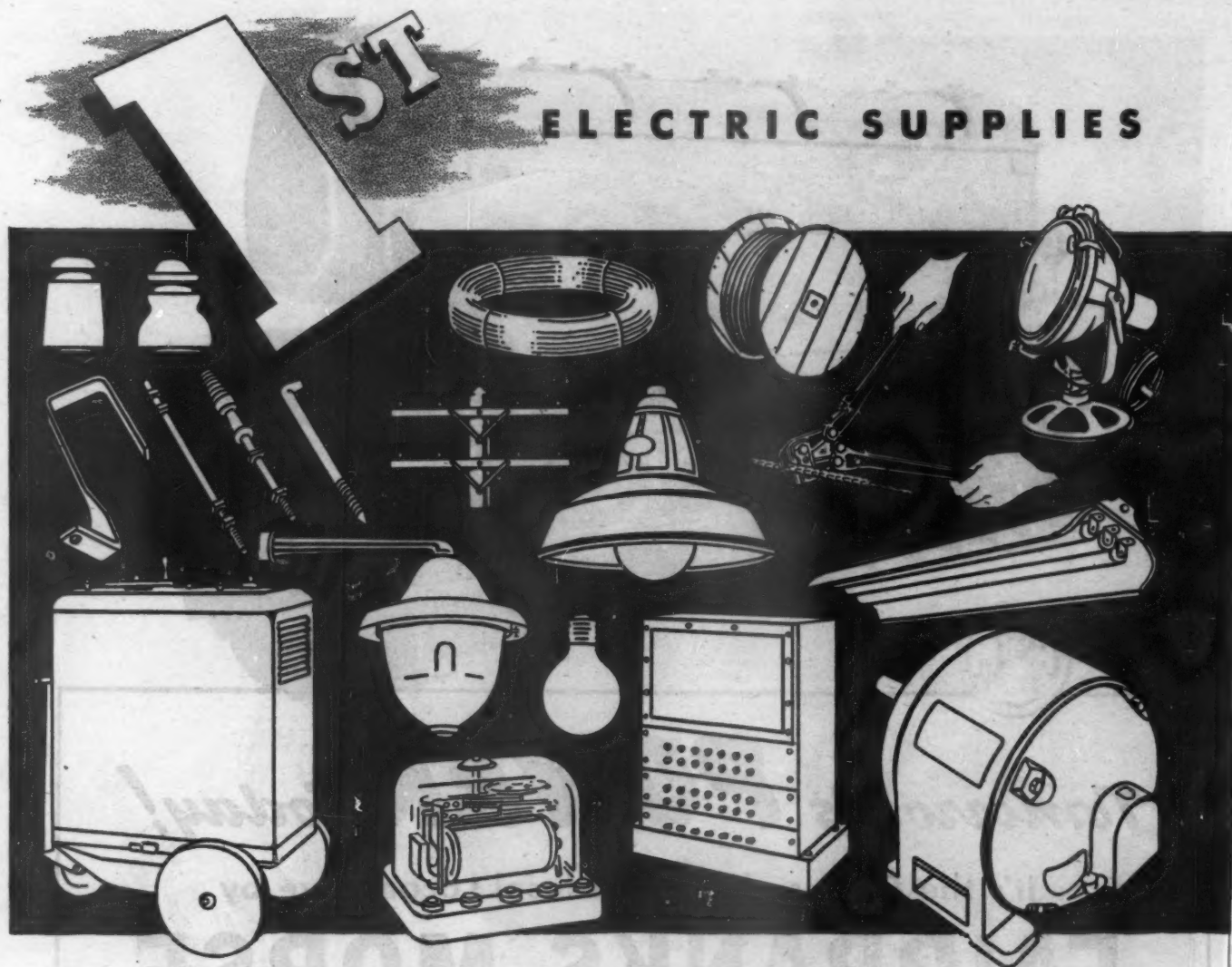
Tomorrow's **POWER** Today!

It's the Opposed-Piston Diesel Locomotive by

FAIRBANKS-MORSE

A name worth remembering





Beginning with the adoption of the telegraph, which marked rail transportation's first use of electric apparatus, Graybar has been providing electric supplies to the nation's railroads. Today, through its nationwide network of warehouses, Graybar offers you local delivery of hundreds of electric supplies especially suitable for railway use. First-quality products of leading manufacturers, they range from pole-line construction equipment and tools to complete telephone dispatching systems — from wire to welding equipment — motors to Mazda lamps.

LET OUR RAILROAD DEPARTMENT HELP YOU

Though Graybar serves all* industries, our service to railroads is so broad that we maintain a special Railroad Department — devoting all its abilities exclusively to selecting and

supplying electric apparatus, equipment, and supplies for railroad jobs. The men of this Department are familiar with railroad electrical requirements and can give you expert aid in choosing and applying the best items for your needs.

CHECK WITH A GRAYBAR SPECIALIST NOW

Whether your electrical requirements are few or many — whether for today's maintenance or tomorrow's modernization — you'll find it well worth while to discuss them with the Graybar Specialist near you.

With the help of the nation's railroads, Graybar distributes more than sixty thousand different electric products of some two hundred manufacturers — to over thirty thousand customers throughout the United States. *Graybar Electric Company, Graybar Building, New York 17, N. Y.*

4564

* Also the home, through Graybar's distribution of electrical appliances and radios.

60 000

ELECTRIC PRODUCTS ARE DISTRIBUTED

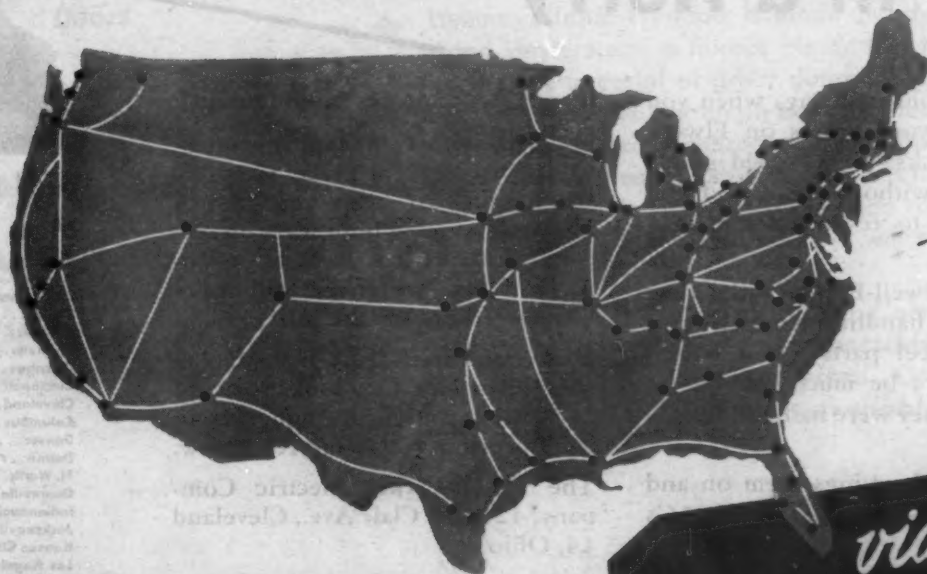
SOURCE FOR THE NATION'S RAILROADS

WELL-KNOWN MANUFACTURERS like these make electric products — all available to you via Graybar — which are particularly suitable for railroad applications:

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American Steel & Wire Company
Anaconda Wire & Cable Company
Appleton Electric Company
Armstrong Cork Company, Inc.
The Arrow-Hart & Hegeman Electric Co.
Atlantic Croscoting Co., Inc.
Bartlett Manufacturing Company
Beaver Pipe Tools, Inc.
Benjamin Electric Manufacturing Co.
Blaw-Knox Company
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Boston Woven Hose & Rubber Company
The Bryant Electric Company
Bulldog Electric Products Company
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Central Railway Signal Company
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Graybar warehouse locations (*) coincide with the nation's rail centers.



THROUGHOUT THE NATION

Offices and Warehouses
IN OVER 80 PRINCIPAL CITIES



How to Get Stores into Stock and Empty Cars Back on Line —in a Hurry

YOU profit two ways when you hustle your Stores on Elwell-Parker Trucks:— you speed goods into stock without delay, and you return cars to revenue traffic in a hurry.

Here's an Elwell-Parker with Crane attachment, handling wooden cases of small steel parts—*solid* babies that couldn't be much tougher to manage if they were nailed down to the floor!

But the Truck swings them on and off with ease—assembles them by 16's in a Master Skid Load, and trots


them away to Stores on the double.

Today the short cuts that your present Elwell-Parkers make possible, are helping to keep your Stores Materials moving both ways on efficient minimum-cost schedules. Tomorrow you will need still more Elwell-Parkers for the job.

Your good friend the E-P Man in your Main Line City looks forward to serving you in the future as in many previous years. He is ready now.

The Elwell-Parker Electric Company, 4250 St. Clair Ave., Cleveland 14, Ohio.



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Los Angeles.....	PR 5911
Memphis.....	8-1648
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Philadelphia.....	LOM 3710
Pittsburgh.....	AT 6734
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ELWELL-PARKER

POWER INDUSTRIAL TRUCKS

Established 1893



WHEELER OSGOOD NOW INTRODUCES *Laminex* PLASTIC *faced* PLYWOOD

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Sliding Door Frame

- ★ Here is a revolutionary material which, to date, has been reserved entirely for high priority war uses, because it is by far the best material ever developed for a rapidly growing list of purposes in the building, marine, transportation and industrial fields. Up to this time, Laminex Plastic Plywood has been used only on war orders.
- ★ The importance of Laminex Plastic Plywood to peacetime building and industry will be great, and forward-looking planners are NOW studying its many advantages for application in their special fields.
- ★ Laminex Plastic Plywood is made by chemically uniting wood veneers and a fibrous plastic film to form a strong impervious material of great durability and versatility. It has great structural strength and high resistance to abrasion. An outstanding characteristic is extremely low water absorption and vapor permeability. It is highly resistant to fire, acids, alkalies, and decay. A wide range of beautiful colors, which will not fade or stain, will be available with smooth or matt surfaces.
- ★ Write for descriptive literature. Correspondence in regard to your problems and possible uses of Laminex Plastic Plywood is invited. Our engineering and merchandising staff is available for co-operation with you.

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**At your fingertips
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CENTRALIZED CONTROL IN PACKINGS? Yes, it's been saving time and money for leading American railroads for more than 25 years . . . through the Johns-Manville Standardized Packings Plan.

Here's how this plan works: First, experienced Johns-Manville service engineers check every piece of machinery in your entire system to determine the correct style and size of packing for your every need.

In the packing survey compiled from this data

(similar to one shown above), each individual packing requirement is listed and given a number. Copies of this survey go to every shop, power plant and storehouse in your system.

As a result, needed packings are thereafter ordered by number instead of by long, and often confusing, descriptions. Time and money are saved . . . errors minimized . . . guesswork eliminated. For more details write Johns-Manville at New York, Chicago, Cleveland, St. Louis or San Francisco.



PACKING Control



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It's simple to pick the right packing off the shelf, when all your varied packing needs have been cataloged in one complete easy-reference guide.

Less stocks to be carried—no waste—no duplication—no measuring or guesswork on requisitions! The shop gets the right packing for the right service, quickly, simply.

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Your mechanics, too, are helped by this centralized Packing Control. No complicated requisitions are required. They get the correct packing for the job simply by looking up the part and asking for it by number. Sure they like it! The J-M Standardized Packings Plan takes a lot of the headache out of their work—and out of your maintenance budget.

In addition, J-M Service Engineers, continuously in the field, are prepared to check regularly on each packing to insure efficiency and long life.

THE BEST PLAN . . . BACKED BY THE BEST PACKINGS!

Over three-quarters of a century of successful packing service to transportation has established J-M leadership in packing design and manufacture. Keeping pace with railroad progress, J-M Research has im-

proved or developed new packings for new railroad needs, in a continuing effort to make them the best packings money can buy. J-M Engineers are at your service to help you solve any unusual packing problem.

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87 YEARS OF SERVICE TO TRANSPORTATION

Insulation • Friction Materials • Packings • Refractory Cements • Building Materials

• A jig rotates this injector body so that worn surfaces may be rebuilt evenly with strong, easily machined weld metal that will withstand severe abrasion and corrosion.



Reclaim Worn Parts With Oxy-Acetylene Welding

• Locomotives, cars, and equipment may be kept in service longer if worn parts are rebuilt by Oxweld's oxy-acetylene welding procedures. OXWELD rods are especially designed to give these parts the desired surface properties—wear resistance, corrosion resistance, toughness, high tensile strength, ductility, or shock resistance. Ask an Oxweld representative to help you choose the rods that will be most useful to you.

BUY UNITED STATES WAR BONDS AND STAMPS

THE OXWELD RAILROAD SERVICE COMPANY

Unit of Union Carbide and Carbon Corporation



Carbide and Carbon Building Chicago and New York

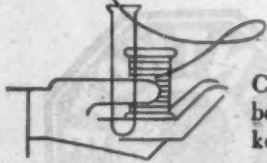


SINCE 1912—THE COMPLETE OXY-ACETYLENE SERVICE FOR AMERICAN RAILROADS

The word "Oxweld" is a registered trade-mark of a Unit of Union Carbide and Carbon Corporation.

"Dramatize your interiors with color..."

upholster in **VELON***



Cut maintenance cost—add new beauty and luxury. That's the keynote of tomorrow's transportation competition—and *Velon*

is the magic that will help you do both!

Seat upholstery of Firestone's *Velon* virtually banishes maintenance and upkeep costs because it is so highly resistant to wear. As transportation seating in buses, trucks, trains and planes, *Velon* has stood up under three years of wartime abuse without loss of beauty or the bright new look it bore the day it was installed.

For *Velon* cannot scuff, snag, stretch or sag. It is highly resistant to stains from deteriorating agents such as acids and alkalis. Grease and grime cannot penetrate, dirt does not cling

to *Velon*'s non-porous, non-absorbent fibres. And a mere wipe with a damp cloth or cleaning fluid removes all traces of soil, brings *Velon* back, bright and fresh as new.

Because *Velon* is so practical, it can be used for interior upholstery in any shade from deep, glowing forthright colors, to delicate pastel tints. It will be available in an infinite variety of textures, weaves and patterns to give dramatic beauty and luxury to your postwar car interiors.

While most all *Velon* now made is still going to war, you can safely make a place for it in your postwar plans. When you are ready, *Velon* will be ready for you.

P. S. For completely modern seating use *Foamex*, Firestone's rubber latex foam.



Listen to the Voice of Firestone Monday Evenings over NBC

Firestone

*Trademark—Pronounced VEL-I-ON.

July 7, 1945

Spray on

ADDITIONAL MILES

Miles and miles . . . millions of them.

Basically that's a railroad's business . . . buying and selling miles. Rolling stock represents an inventory of miles . . . a flexible inventory that can be stretched to your advantage with Flintkote Car Cements.

These asphalt-base compounds resist wear, abrasion and *corrosion*. They "plate" surfaces with resilient, long-wearing armor. They preserve strength for additional miles of pay load.

Today those miles are especially precious, and more and more maintenance men are discovering that Flintkote Car Cements help to keep cars out of the shop.

Flintkote Car Cements are easily and quickly applied with brush, trowel or spray . . . few hours and the job is done.

For over 40 years The Flintkote Company has served the railroad industry by supplying quality products in Car Cements, Asphalt Protective Coatings, Mastic Flooring, Insulation Coating, Building Materials.

Our Railway Division will be glad to send you full information, or to study any individual problems you may have.

TYPICAL APPLICATIONS OF FLINTKOTE CAR CEMENT

Underframes—all types of freight cars. Box Cars—outside roof . . . ends (side and end posts) . . . over coupler units at each end of floor line . . . inside, under wood lining

(ends, sides and roof). Gondola Cars—over coupler units at each end of floor line . . . on underframes. Hopper Cars—underside of slope sheet . . . underframes . . . couplers.

THE FLINTKOTE COMPANY

Industrial Products Division

30 ROCKEFELLER PLAZA, NEW YORK 20, N. Y.

Atlanta • Boston • Chicago Heights • Detroit • Los Angeles • New Orleans
Washington • Toronto • Montreal



Stainless Steel

Has Passenger Appeal

The Empire State Express, built shortly before the war by the E. G. Budd Company, brought marked increases in passenger revenue. It is typical of the first trains that will be built as soon as stainless steel is again available. Ten years of experience with stainless steel passenger equipment on many railroads has shown that it is safe and durable. Since the metal is resistant to rust and corrosion, it does not require painting and is very easy to clean and keep clean.

Many other industries are also designing new equipment to take advantage of the high strength and corrosion resistance of stainless steel. The permanent gleaming beauty of stainless steels contributes "salability" to many products.



BUY UNITED STATES WAR BONDS AND STAMPS

Other interesting uses of stainless steel are described in ELECTROMET REVIEW published by ELECTRO METALLURGICAL COMPANY, the Unit of UNION CARBIDE and CARBON CORPORATION that produces alloys for making steel. If you are an executive, engineer, or designer you can be put on the mailing list for ELECTROMET REVIEW by sending your name on your business letterhead to ELECTRO METALLURGICAL COMPANY, Room 328, 30 East 42nd Street, New York 17, N.Y.



Blackout

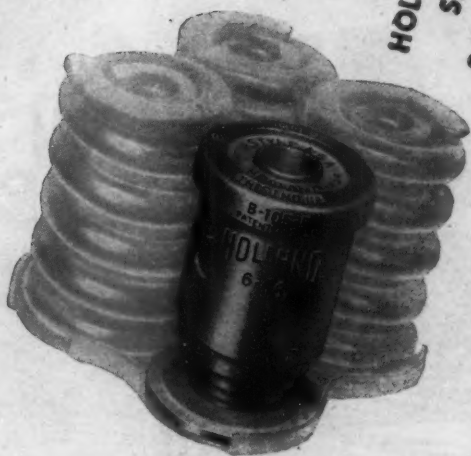
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A. A. R. STANDARD SPRING GROUP



This is what Vibration and Recoil Curves prove about the movement of your spring groups in operation.

HOLLAND SNUBBER
SPRING AND
3 A. A. R. SPRINGS



Style A-6-A Holland *Volute* Snubber Springs

HOLLAND

COMPANY

332 SOUTH MICHIGAN AVENUE, CHICAGO, ILLINOIS

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"Hell on Tracks"

THE AMPHIBIOUS WEASEL

DESIGNED AND DEVELOPED BY STUDEBAKER CORPORATION

N-A-X

LOW-ALLOY STEELS



DUCTILITY—STRENGTH—TOUGHNESS PUT N-A-X 9120 ON THE JOB

The track assembly parts of the amphibious Weasel call for something pretty special in *steel* to meet the requirements.

It must have *ductility* to permit cold-forming into difficult stampings. And it must have good *hardness* and response to heat-treatment to make it strong and tough.

N-A-X 9120 combines these properties in one great steel, and provides in addition excellent weldability for the fabrication of the track shoe. Together, these track parts furnish a good example of the outstanding work being done with versatile N-A-X alloy steels. Consult Great Lakes for assistance in determining the best steel of this series for your particular requirements.

HEAT-TREATED TRACK ASSEMBLY PARTS COLD-FORMED OF N-A-X LOW-ALLOY STEEL



CROSS PLATE



GUIDE



BOTTOM GUIDE WHEEL



TOP GUIDE WHEEL



SHOE

GREAT STEELS
FROM
GREAT LAKES

GREAT LAKES STEEL *Corporation*

N-A-X ALLOY DIVISION • DETROIT 18, MICHIGAN

UNIT OF NATIONAL STEEL CORPORATION



"speaking of railway safety devices

... don't forget

DIXIE CUPS

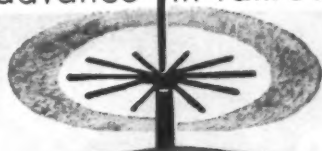
"Remember the old tin drinking cup on the train? I do. But how times change! For years now, along with everything else railroads have done for the safety and comfort of passengers, we've given 'em individual paper cups ... Protection from contagion is as important as protection from accidents."

In connection with your post-war planning, Dixie Cup Company invites the inquiry of railway car designers relative to our latest developments in cup dispensing equipment, cups and containers—for water service, lunch bar and club car service. We will welcome discussion of adaption or creation of equipment to fit in with your design requirements. Address Railway Division, Dixie Cup Company, Easton, Pa.

"STANDARD IN RAILROAD SERVICE FOR OVER 30 YEARS"

WAY AGE

Report No. 13 on the latest advance in railroad communications



V.H.F. RADIO

provides mobile communication for all phases of railroad operation

Yards, terminals, and railway moving stations can all be equipped with two-way voice communication between the yardmaster or train director and the switching crews. End-to-end, train-to-train, and yard-to-yard communication are also available for main line operation.

A heavy job can be done by V.H.F. radio because—

• *No special antenna is needed in the communication circuit.*

• *Highly efficient antennas can be mounted in the restricted clearance provided on railroads.*

• *Reflectors or V-shaped antennas can be used to direct waves behind buildings and under bridges in the area to be served.*

• *Atmospheric static is at a minimum due to the very nature of V.H.F., and man-made noise is eliminated by electronic circuits in the receiver itself.*

• *Lower power is required for satisfactory communication. Range is controlled not by power but by antenna position and type.*

• *Efficiency and reliability of operation are direct results of these features—interference due to external causes are virtually eliminated, and maintenance and operation are extremely simple. All this means more consistent service.*

Details of V.H.F. Radio for railroad communication will be supplied on request.

PRODUCT OF

Bendix

AVIATION CORPORATION

Bendix Radio

NEW YORK

SPRINGFIELD, MASSACHUSETTS

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With built-in ignition system

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BY STERLING

HERE'S THE KIND OF INFORMATION YOU WANT REGARDING NEW POWER FOR A NEW WORLD

This new booklet describes the outstanding features of the complete line of Sterling continuous duty and stand-by engines—gasoline, gas and diesel—supercharged and unsupercharged—from 75 to 1800 horsepower.

Every railway executive who is interested in the latest facts regarding power plants for diesel locomotives, switchers, rail cars and many other railroad applications will want a copy. Write for yours. No obligation.



THE NEW STERLING VIKING DIESEL EIGHT CYLINDER INDUSTRIAL ENGINE
SUPERCHARGED FROM 225 TO 450 HORSEPOWER UNSUPERCHARGED FROM 145 TO 440 HORSEPOWER

Some of its features are: The compactness of a gas engine of the same power rating; Cast-iron and cylinder-block cast in one piece making for greater rigidity of construction; Accessibility for servicing.

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• Pennsylvania's Class S-2 direct drive steam turbine locomotive for passenger or freight service—wheel arrangement 6-8-6.



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• Pennsylvania's Class Q-2 new four-cylinder steam freight locomotive designed to increase hauling capacity and over-all train speeds—wheel arrangement 4-4-6-4.

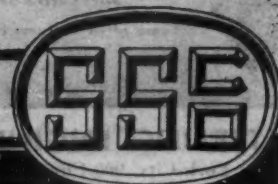


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STANDARD
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**SUPERIOR
CAR DOORS
are
LIGHTWEIGHT
DOORS**



Superior Car Doors are approxi-
mately 22% lighter . . . with no
decrease in strength.

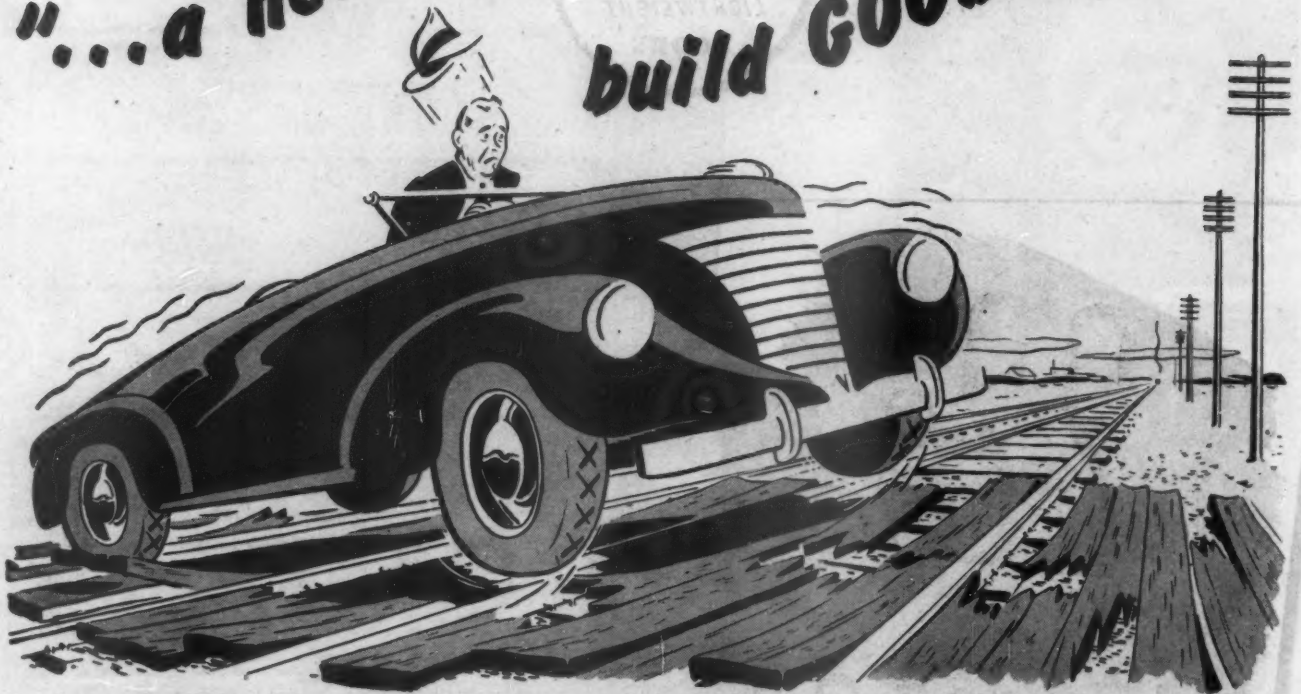
They are doing their part
toward light-weight construction
. . . their saving in dead weight
permits increased pay-load.

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- WEATHER PROOF
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- NO SLAMMING

LIFT HANDLE TO OPEN OR CLOSE DOOR

"...a heck of a way to
build GOOD WILL!"



ELIMINATE this ever-costly roughness with Truscon Weltrus Highway Crossings

• Rough, bumpy crossings breed nothing but ill will and expense for you. They inevitably result in crossing claims, constant upkeep expense, and general condemnation from the public upon whom you rely for traffic.

Truscon *Weltrus Steel Crossing sections are welded steel units which, when properly filled with concrete, provide crossing planks that are permanently smooth and assure little or no maintenance. The units are so designed that concrete is reinforced and armored to guard against disintegration. Dimensions of standard units are 6" x 16 $\frac{1}{4}$ " x 6' 0", but units can be furnished in any required size. The units, being uniform in size and with the end sections identical, are interchangeable and require no special markings for installation purposes.

Truscon construction engineers will gladly give you complete information on Weltrus Crossings for your postwar projects.

TRUSCON STEEL COMPANY • Youngstown 1, Ohio
Subsidiary of Republic Steel Corporation

*Reg. U. S. Pat. Off.



TRUSCON

WELTRUS HIGHWAY CROSSINGS

It Pays to Pay More

FOR EQUIPMENT
THAT'S MADE OF
LONG-LASTING

ENDURO

● It's true that the first cost of Republic ENDURO Stainless Steel is higher than that of many other structural and decorative materials. But it's also true that ENDURO's cost per year of service is less. *Actually, you are money ahead when you use ENDURO.*

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ENDURO STAINLESS STEEL

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At Cincinnati's **HOTEL SINTON**, "It's Curried Chicken A La Pago-Pago," says Manager R. L. Othling. Served on cinnamon toast with rice and chutney, this delectable dish is a favorite of many guests who frequently dine in the beautiful Crystal Room. (illustrated above)

"SPECIALTY OF THE HOUSE"... IN NAPERY. Like so many other hotels, restaurants and clubs, Hotel Sinton has chosen for its table-settings—

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Cloths, Napkins and Damasks,
made right in America

ROSEMARY SALES

A DIVISION OF SIMMONS CO.

40 Worth Street, New York 13, N. Y.

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Chef Otto Druhe's

"PRIZE RECIPE"

*Curried Chicken
a La Pago-Pago*



Simmer fowl until done ... bone and place escalloped meat in Chafing Dish. Cover with sauce made as follows: 2 tablespoonfuls flour; 1/2 med. sized onion, chopped; 1 diced apple. Fry slowly in butter without browning. Add enough broth to make medium thick Veloute Sauce. Cook until smooth. Work in liaison of egg yolks beaten with curry powder.

CHUTNEY: Combine 2 cups vinegar; 1 oz. ginger (bruised); 1/2 oz. chilies; 1/2 oz. mustard seed; 1 oz. salt; 2 cups brown sugar and boil for 30 minutes. Strain thru fine sieve and add 1 med. size onion, chopped; 2 oz. Sultana raisins; 5 large apples, pared, quartered and boil until quite soft.

Serve with rice on cinnamon toast.

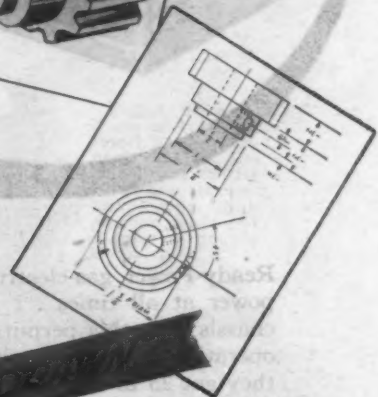
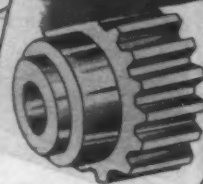
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More Tonnage Per Day

A collage of industrial trucks, including forklifts and trucks with large cylindrical tanks, in a warehouse setting. A circular inset in the lower-left foreground shows a close-up of a Ready-Power gas-electric unit, which is a rectangular, dark-colored metal box with a large cylindrical vent on the side.

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PROVIDE CONTINUOUS POWER
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All leading manufacturers of electric trucks

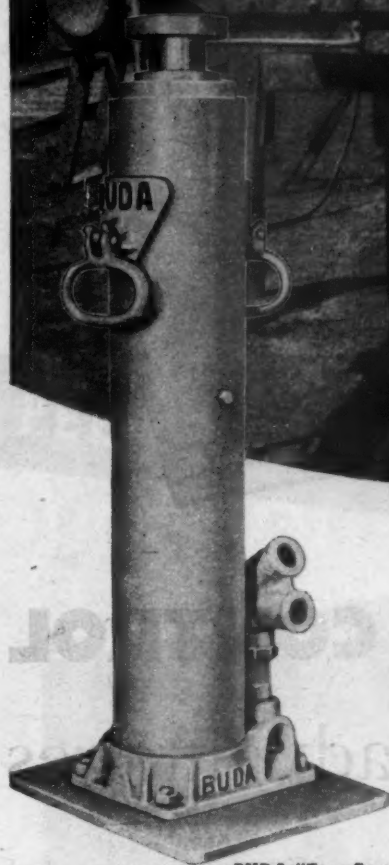
can use Ready-Power as original equipment on new trucks of their manufacture. In making new truck purchases specify "to be Ready-Power equipped" and secure the convenience and reliability of the electric truck with the improved performance resulting from Ready-Power gas-electric drive.

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BUDA "Two Speed" Hydraulic Jacks, 25-B-28 widely used for car and locomotive repair work.



BUDA Model 2215-SB Automatic Lowering "All Purpose" Jack. Hinged base. 15 ton capacity.



BUDA Ratchet Track or Trip Jack Model No. 715. Capacity 15 tons. Designed especially for track maintenance jobs. High and low types and single or double acting types.



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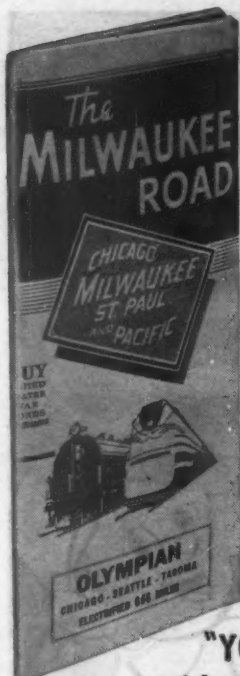
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BUDA Track Liner

BUDA "Chore Boy"

BUDA Tie Nipper

BUDA Rail Bender



"YOURS IS A GREAT SYSTEM"
said we (talking
about Railroads)



"YOURS, TOO"
said officials of The
Milwaukee Road (talking
about Stores Control)



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gives the Milwaukee Road 8 advantages

Stores Control on the Milwaukee Road is KARDEX Visible which starts off with such benefits as (1) speedy posting, (2) quick reference (3) positive control and (4) centralization of data.

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mation which gives the railroad real stores control. An effective record system for a great railroad system.

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Maximum Protection

The careful design and manufacture of Peerless H-1-B Draft Gears assure maximum protection for freight cars under all traffic conditions. Peerless Draft Gears provide:

- Smooth Action
- Low Recoil
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PEERLESS H-1-B DRAFT GEAR



A. A. R. Approved



EFFECT OF **Climate?** **NONE!**



AT VIRTUALLY any point of latitude or longitude MEARLFOAM-5 the war-born, blended, multi-protein foaming agent can be depended upon to produce live, long-lasting, fire-smothering foam in specified volume. For example: with a range of water temperatures (*sea water and fresh water*) from 35° to 70°F. the foam volume (gpm) generated shows insignificant variation only—a variation so infinitesimal, that it serves to enhance the reputation of MEARLFOAM-5 for top-flight fire-extinguishing performance in a wide range of climatic and atmospheric conditions. *Effect of climate? NONE!*

The many unique and dependable properties of MEARLFOAM-5 are the sole reasons the U. S. Navy uses it extensively for preparedness . . . and for the quick extinguishment of raging gasoline and oil fires on shipboard and at shore bases. MEARLFOAM-5 is the veteran of many successful engagements, and one day will demonstrate to all—the super effectiveness of mechanical (air) foam as the most successful method for combating gasoline and oil fires. MEARLFOAM-5, after putting fire out—*keeps it out* . . . totally eliminating the flashback hazard which in the past has taken such

a terrible toll of lives and property.

MEARLFOAM-5 is a good-mixer—with any type of water: *sea water, fresh water, hard or soft water*. It works at maximum efficiency in any climate or atmospheric condition. Its performance is practically constant and invariable over a wide range of conditions. When split-seconds count—you can rely on MEARLFOAM-5 to put fire out fast—to keep fire out *permanently!*

A one-page condensed data sheet detailing the unique properties of this war-born fire-fighting foam is now available on request. Please ask for it.

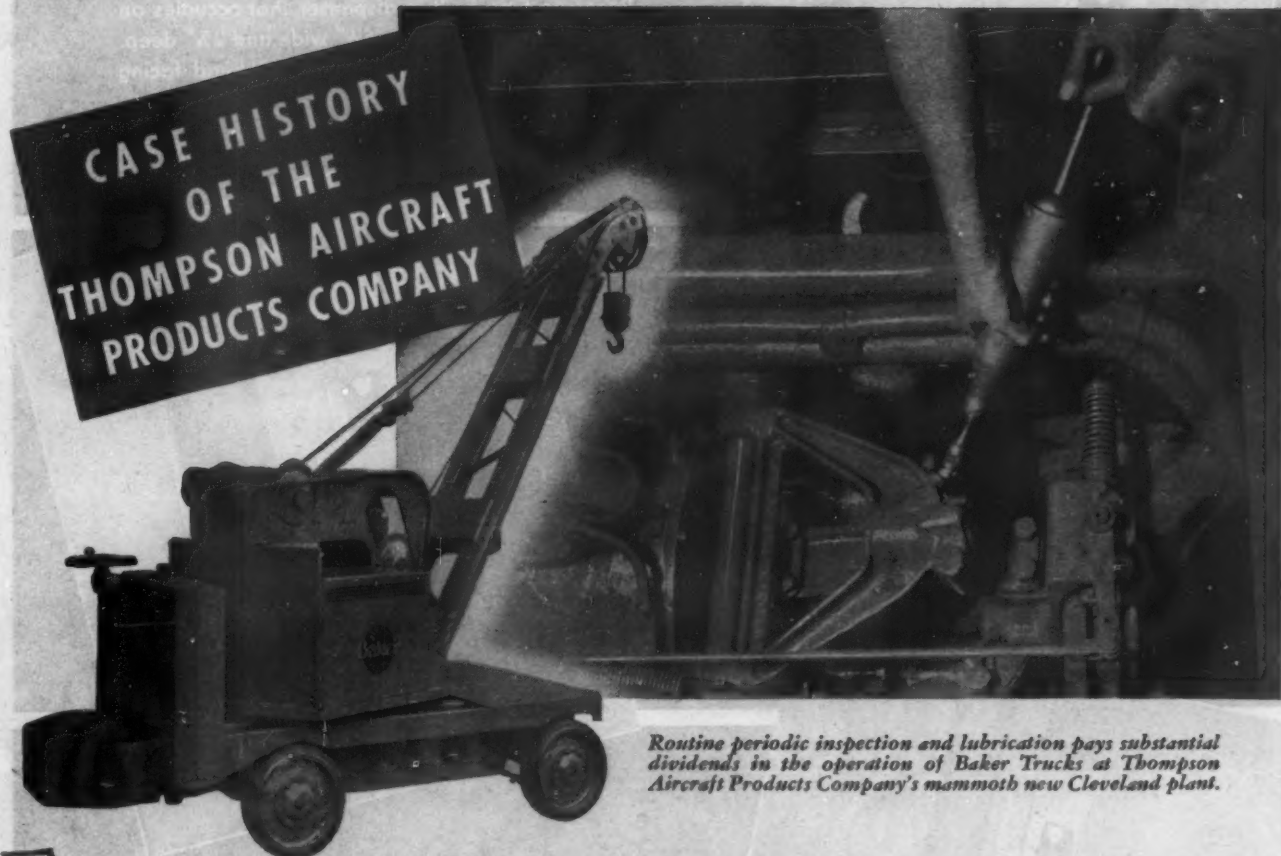
Completely safe and non-corrosive—may be used with standard Mechanical Foam-Forming Equipment

**FOAM ON
FIRE OUT...
Stays OUT!**



THE MEARL CORPORATION
153 Waverly Place, New York 14, N.Y.

"Our 11 BAKER TRUCKS have given us Continuous 24 hour service for 4 years"



Routine periodic inspection and lubrication pays substantial dividends in the operation of Baker Trucks at Thompson Aircraft Products Company's mammoth new Cleveland plant.

Here is a good example of what can be expected of Baker Trucks in the way of *continuous operation*, when properly cared for. According to N. J. Shibley, Superintendent of Building and Property Maintenance at Thompson, their Baker Crane Truck and ten Baker Fork Trucks are as good as new after

serving three shifts per day for nearly four years—the equivalent of 12 years of normal service. No truck has been overhauled, there have been only a few minor mechanical failures, and maintenance has been almost negligible.

Actual time out of service averages less than 1/2 hour per day, per truck, divided as follows:

Daily check of Hydraulic System . . . 5 min.

Battery changes (2 min. each shift) . . 6 min.

Weekly lubrication (45 min.)—per day 7 min.

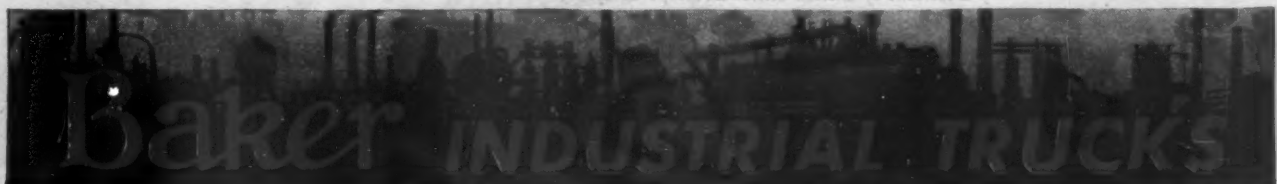
Other maintenance (Tires, brakes, inspection and adjustment of electrical controls, etc.) 45 hrs. per month for 11 trucks—per day 10 min.

Total . 28 min.

Except for the above and for a ten minute period between shifts when trucks are idle, they have been giving "round-the-clock" service for four years and, says Mr. Shibley, "if we continue to take good care of them, they should last indefinitely." That's *Continuity!*

To help you keep your Baker trucks operating continuously and to insure long life, write for "Industrial Truck Care Pays You Dividends."

BAKER INDUSTRIAL TRUCK DIVISION
of The Baker-Raulang Company
2172 WEST 25TH STREET • CLEVELAND, OHIO
In Canada: Railway and Power Engineering Corporation, Ltd.





← The AJAX Paper Cup, long a favorite with railway employees and passengers, offers additional advantages to the railway car designer. Its elliptical, open wedge shape permits the use of the AJAX Recessed-type built-in dispenser that occupies an opening only 14½" high, 5½" wide and 2¾" deep. Here it is shown installed in the bulkhead facing the aisle.

→ Here is another Recessed-type AJAX dispenser installation located so that the dispensing unit is in full view of anyone passing down the car aisle. Notice that the AJAX Cup is in plain sight, as in all installations, ready to be withdrawn from its dispenser easily one at a time.



← In this view the water service with its AJAX Recessed-type dispensing unit is installed in the narrow space adjacent to the baggage rack located in the aisle.

Blueprints and complete specifications upon request.



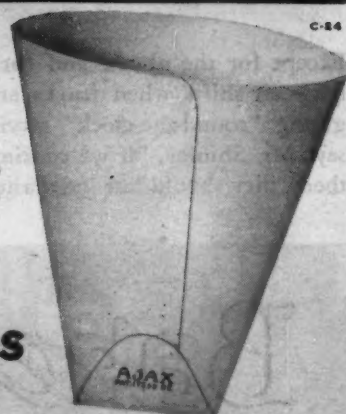
LOGAN DRINKING CUP CO., Division
68 Prescott Street, Worcester 5, Mass.

PACIFIC COAST ENVELOPE CO., Division
416 Second Street, San Francisco 7, Calif.

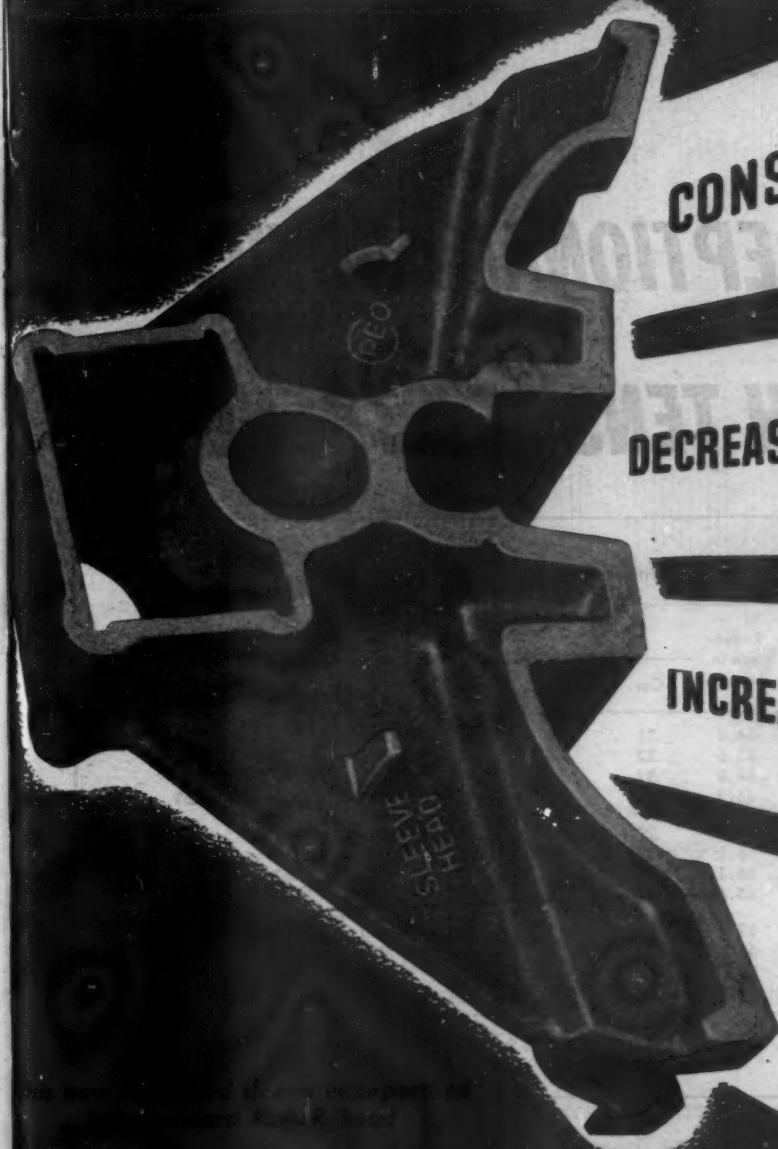
Divisions of United States Envelope Company

AJAX

PAPER DRINKING CUPS



SLEEVE BRAKE HEAD



CONSERVES MATERIALS

DECREASES BRAKE BEAM FAILURES

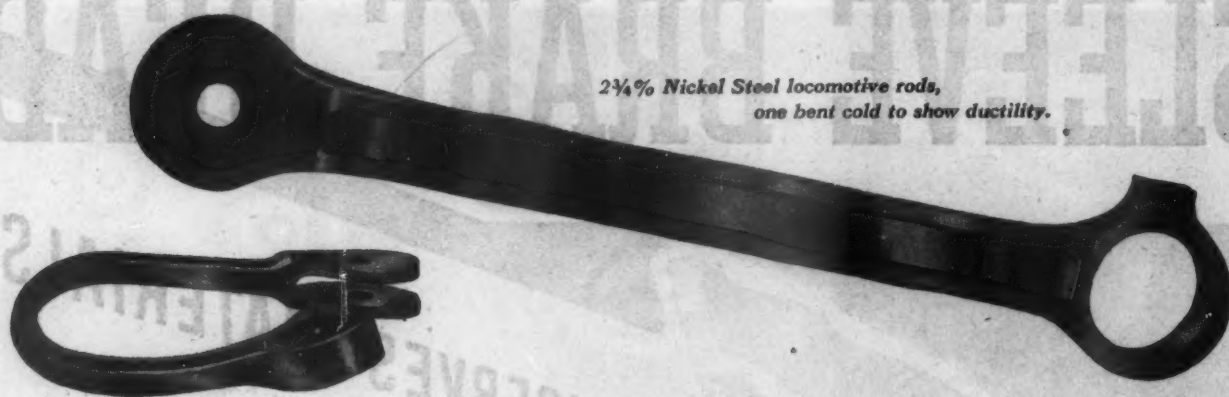
INCREASES TENSION-ROD LIFE

REDUCES TRAIN DELAYS

*Over 5,750,000 Sleeve Heads in
service is evidence of their value*

CHICAGO RAILWAY EQUIPMENT CO.

McCormick Building, Chicago



2¼% Nickel Steel locomotive rods,
one bent cold to show ductility.

QUENCHED AND TEMPERED
NICKEL STEEL
FORGINGS COMBINE

EXCEPTIONAL DUCTILITY
WITH
HIGH TENSILE STRENGTH

Composition and Typical Properties of Normalized Quenched and Tempered 2¼% Nickel Steel Rods

Description or Size	Melt Yield Pl. No. Lbs. per Sq. In.	Tensile Strength Lbs. per Sq. In.	Elong. % in 2 In.	Reduc- tion in Area %	ANALYSIS					
					Car.	Mang.	Phos.	Sul.	Sil.	Ni
Main Rod....	92900	110000	25.0	64.4	.31	.78	.027	.026	.25	2.75
Main Rod....	86500	104500	25.5	65.6	.32	.86	.034	.032	.29	2.69
Main Rod....	86360	104400	26.0	64.8	.32	.86	.034	.032	.29	2.69
Main Rod....	87850	102350	26.0	66.2	.31	.89	.037	.025	.32	2.69
Front Rod....	86000	102250	25.0	67.3	.29	.82	.035	.027	.24	2.71
Front Rod....	83900	104250	25.0	66.1	.29	.82	.035	.027	.24	2.71
Front Rod....	86850	104250	27.0	66.1	.32	.86	.035	.025	.30	2.65
Front Rod....	89500	107050	25.5	65.6	.32	.86	.035	.025	.30	2.65
Back Rod....	89500	107650	25.0	62.7	.30	.79	.030	.025	.22	2.71
Back Rod....	87500	106450	25.0	65.4	.29	.82	.035	.027	.24	2.71
Back Rod....	87000	105600	25.0	65.4	.29	.82	.035	.027	.24	2.71
Back Rod....	88150	104850	26.0	66.8	.29	.82	.035	.027	.24	2.71

Specimens Taken from Mid-Section of Prolongations of the Forgings

The above table compiled by the American Locomotive Company shows the chemical compositions and mechanical properties of some normalized, quenched and tempered nickel steel front, main and back rods recently produced as replacement rods for locomotives being speeded up and rebalanced. These values are typical of replace-

ment rod forgings recently tested by that company.

Quenched and tempered nickel steel forgings of this type provide high tensile strength and ductility, combined with unusual toughness and high fatigue strength—qualities which tend to obviate breakage when employed as rods in railroad service.

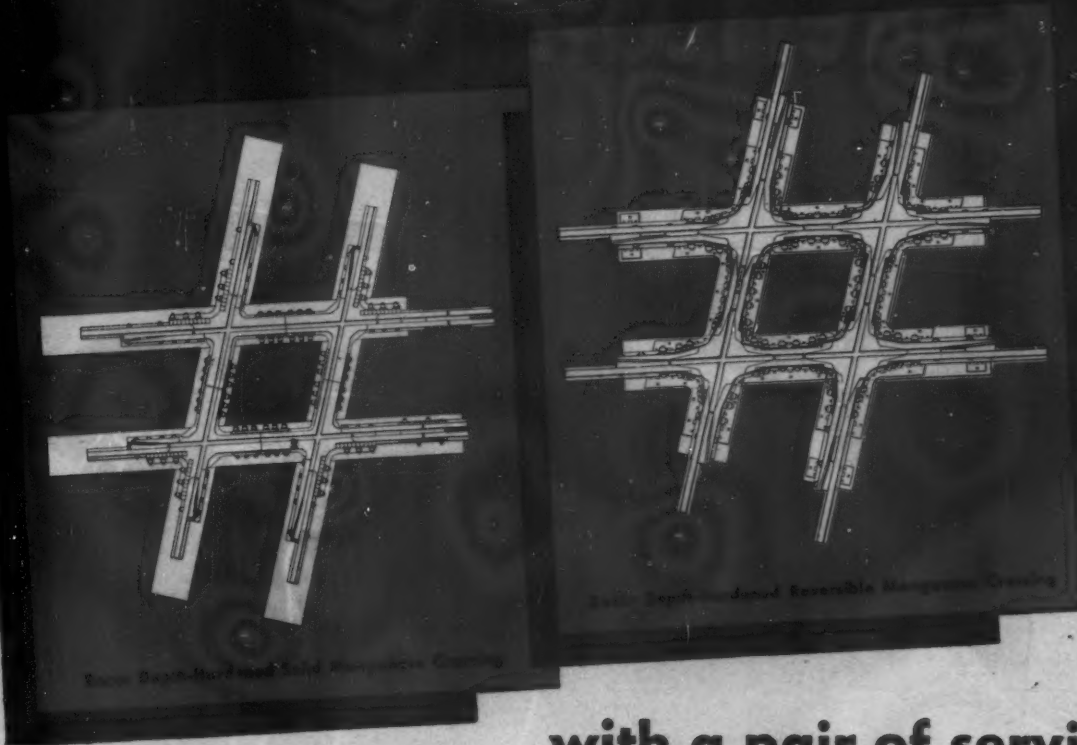
A booklet entitled,
"NICKEL ALLOYS IN
RAILWAY EQUIPMENT,"
describes important and
varied uses of nickel steels
and other alloys of nickel.
Send for your copy today.



★ **Nickel** ★

THE INTERNATIONAL NICKEL COMPANY, INC., 67 Wall St., New York 5, N. Y.

A PAIR OF **RACOR** CROSSINGS



with a pair of service-improving features

When you use a Racor Solid Manganese Crossing or a Racor Reversible Manganese Crossing, you benefit by two features developed by Ramapo Ajax to insure continued smooth-riding traffic at busy intersections.

- ① Each of these Racor Crossings is depth-hardened — given a controlled work-hardening in the factory — a process devised and carried out to defer pounding down of points and surfaces.
- ② Each of these Racor Crossings has an integral base design. The casting for it has been reinforced with an integral base for its entire length. This type of design makes further plating less essential and in many locations unnecessary.

Because of these two service-improving features . . . because of the casting experience, metallurgical knowledge and foundry leadership that are back of them, these Racor Crossings have the durability demanded by today's high speed traffic.

Brake Shoe

COMPANY

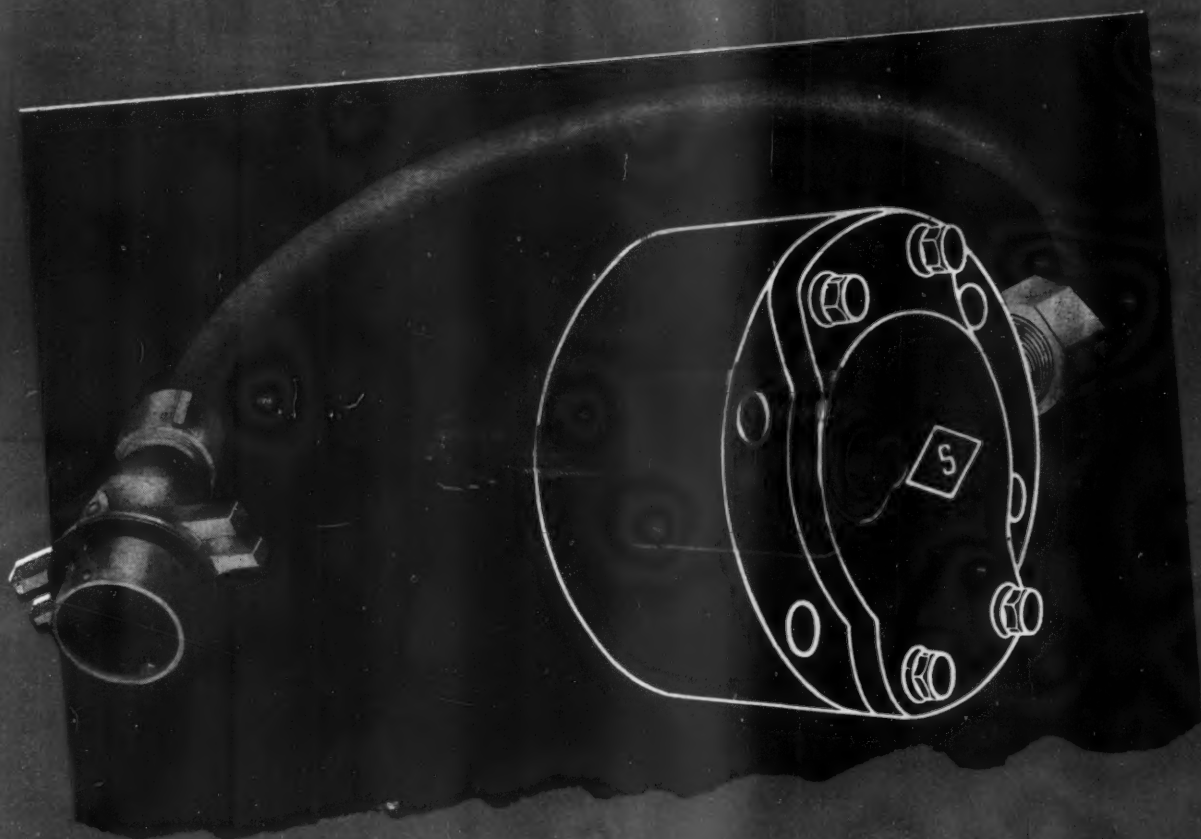
RAMAPO AJAX DIVISION

332 South Michigan Ave. • Chicago 4, Illinois

HILLBURN, N. Y. • SUPERIOR, WISCONSIN • NIAGARA FALLS, N. Y. • LOS ANGELES, CALIFORNIA
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4127

the **American Brake Shoe**



SIMPLICITY ITSELF *in construction and operation*

- The simplicity of the American Brake Shoe Controller, is shown by the above drawing. There is but one moving part — a rugged rotor.

- Testing is simple, too. Operation can be accurately checked when car is standing or moving.

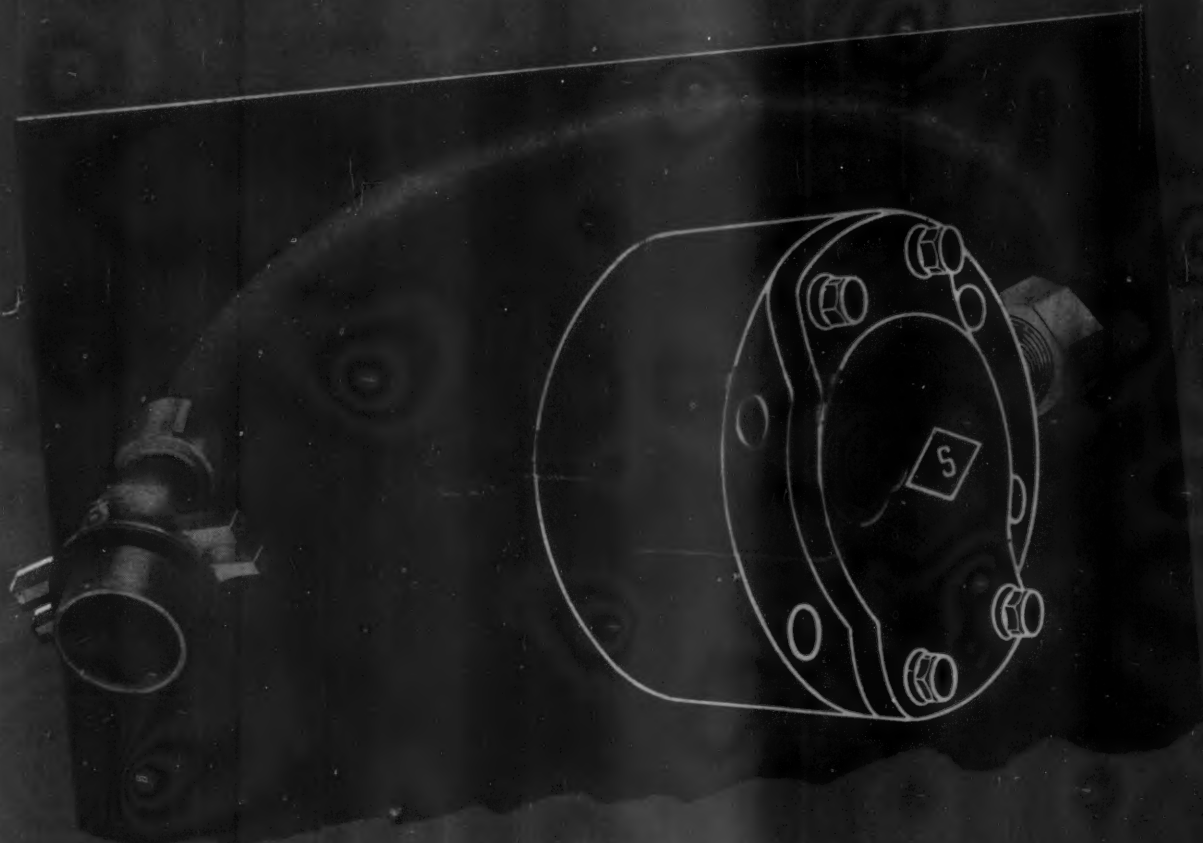
AMERICAN

Brake Shoe

COMPANY

BRAKE SHOE AND CASTINGS DIVISION
230 Park Ave., New York 17, N. Y.

the American Brake Shoe



SIMPLICITY ITSELF *in construction and operation*

• The simplicity of the American Brake Shoe Controller, is shown by the above drawing. There is but one moving part — a tapered rotor.

• Testing is simple, too. Operation can be accurately checked when car is standing or moving.

AMERICAN

Brake Shoe

COMPANY

BRAKE SHOE AND CASTINGS DIVISION
230 Park Ave., New York 17, N. Y.

Controller...



RELIABILITY ITSELF *in prevention of slid flats*

- The American Brake Shoe Controller is positive in its detection of wheel slippage . . . instant in its correction . . . unfailing in its restoring of full brake as soon as slippage is eliminated.

- Passenger Traffic and Operating officials welcome the availability of equipment made possible by the use of the American Brake Shoe Controller, proved by years of successful performance on high speed passenger trains.

The long life **KATHANODE**

**The RIGHT Battery
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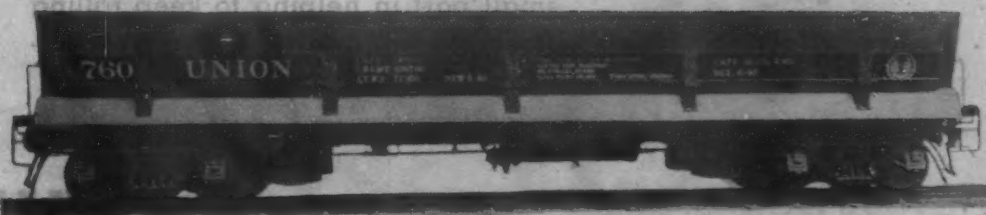


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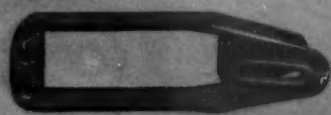
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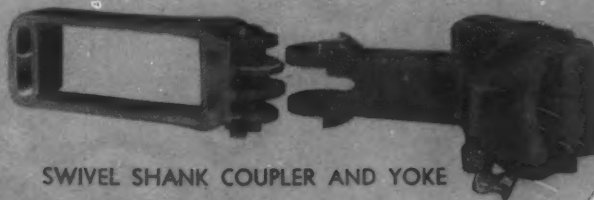


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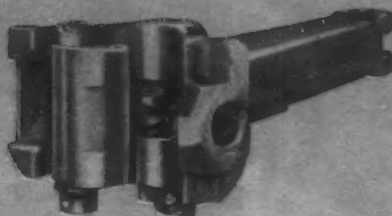
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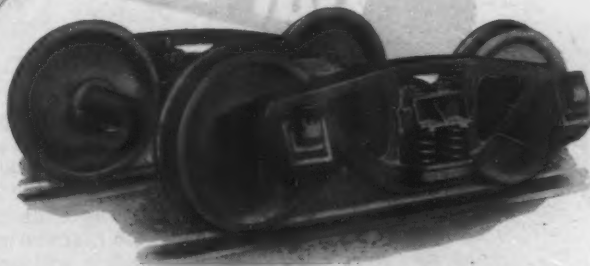
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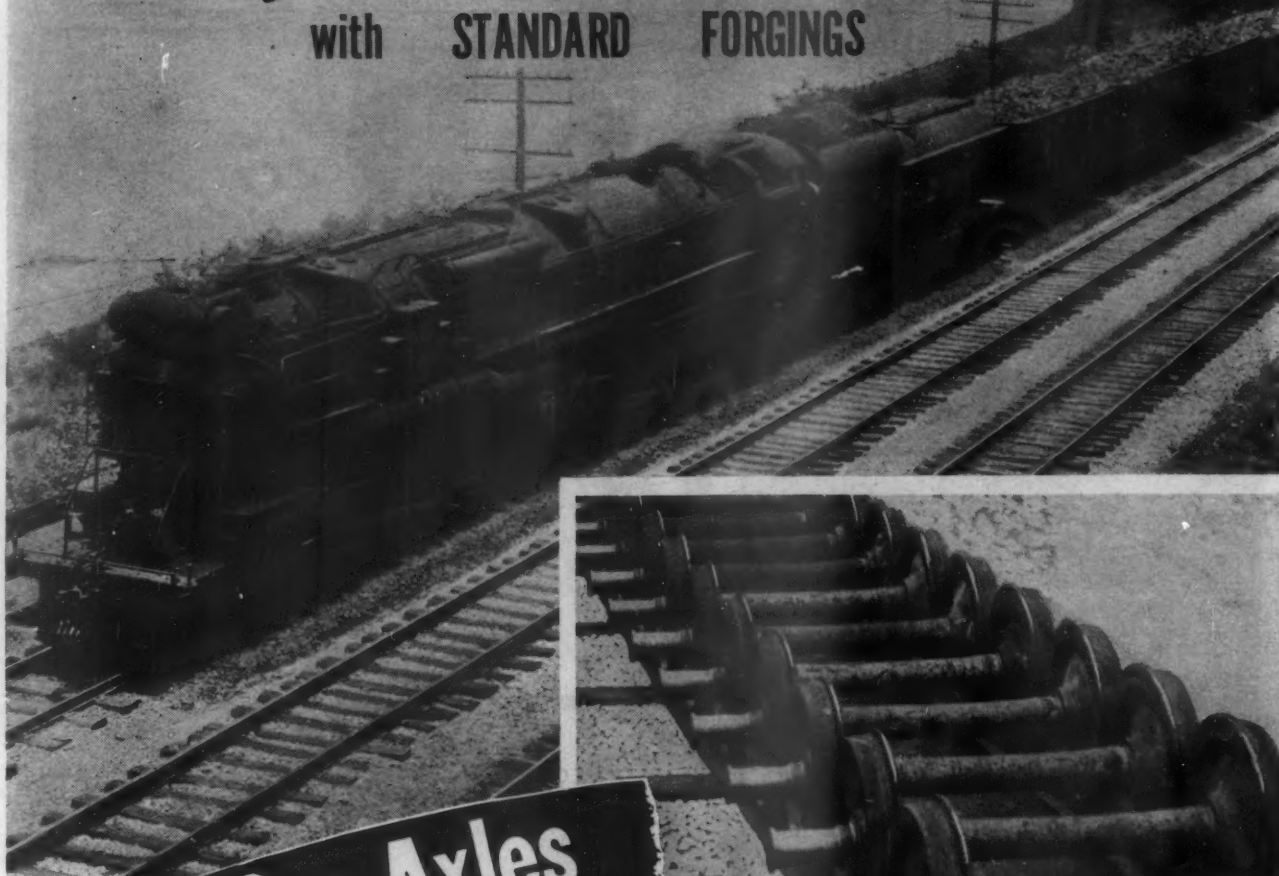
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Extract from Dearborn report to a prominent railroad.

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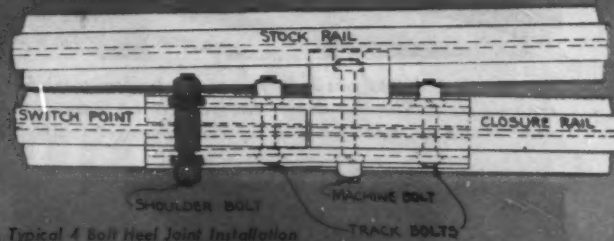
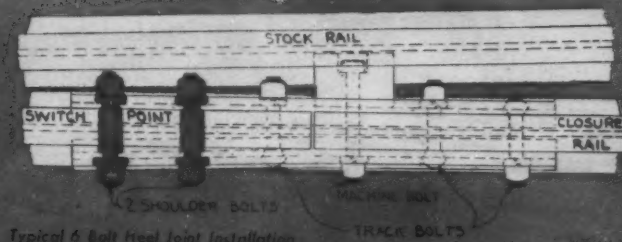
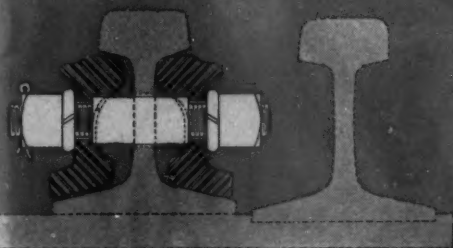
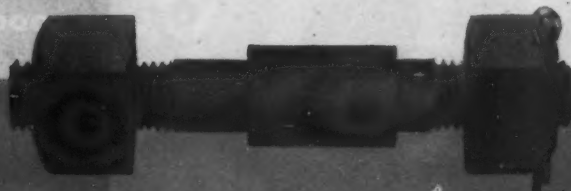


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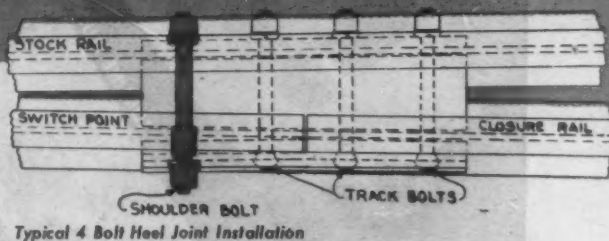
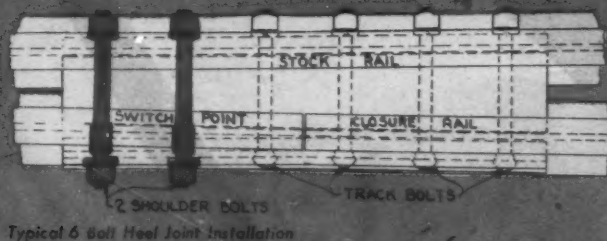
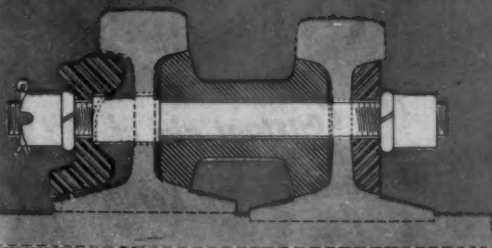
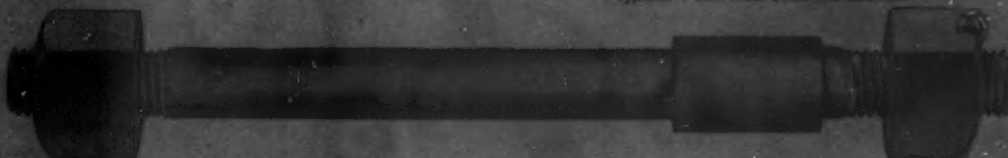
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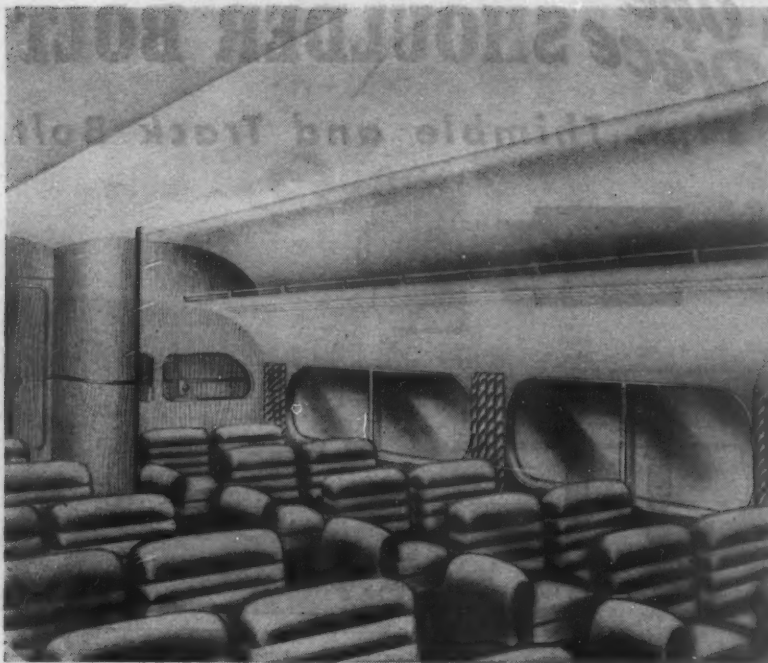
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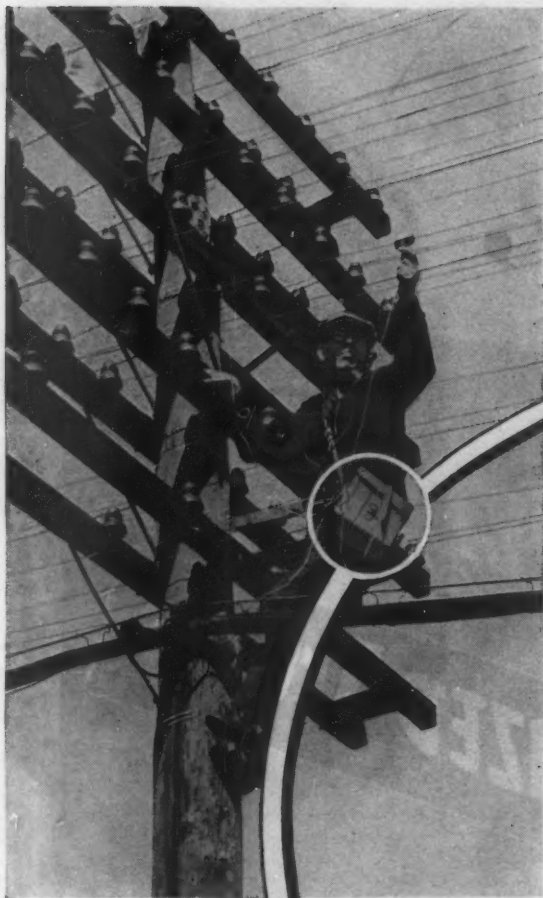
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The fundamental approach today toward all railroad technological problems is an economic one, according to Charles B. Bryant, Southern Ry. officer, and the basic question to be answered in every case is "Will it pay?"

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George M. Harrison, B. of R.C. grand president, analyzes the difficulties to be faced and gives the unions' ideas of 12 possible ways to meet them.

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The recent two-day A.A.R. Purchases and Stores General Committee session in Chicago completed a year of intense activity—The report of this committee, election of officers and abstracts of 14 subject committee reports containing specific recommendations with respect to procurement and reclamation, appear herein.

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The Week at a Glance

P. & S. REPORTS: Faced with the necessity of omitting again the regular annual gathering of the membership, the officers and General Committee of the Purchases & Stores Division of the Association of American Railroads met last week in Chicago to button up the year's work, install new officers and committee members who were selected by letter ballot, and accept reports containing the recommendations and comments of the subject committees. Much of the space in this issue is devoted to abstracts of these reports. In lieu of a convention address, the retiring chairman of the division, L. P. Krampf of the Missouri Pacific, has contributed the article appearing on page 13, in which he outlines some war-time activities of P. & S. men and forecasts the immediate prospects for material procurement.

FEWER NON-REVENUE CARS: While the subject matter of all the committee reports is directly related to the regular duties of purchases and stores officers, one in particular throws emphasis on the contribution which this department of each railroad's organization can make to relieving one of the most perplexing current difficulties plaguing all the railroads—the tight freight car supply. Vigorous and persistent attention to reducing the non-revenue use of cars, and equally consistent watchfulness for opportunities to get the most effective results from those that are used, will be particularly productive under prevailing conditions of sporadic shortages and intensive employment of all available equipment, and the report puts emphasis on practical ways to bring about these desirable and profitable results.

RESEARCH ECONOMICS: Charles B. Bryant, assistant to vice-president of the Southern, discussed in scholarly fashion recently at an Academy of World Economics meeting in Washington, the economic approach of the railroads to their technological research problems. His remarks are presented on page 5. While there are many issues pressing for solution, the industry has the advantage, he points out, of having reached sufficient maturity to have established a sound and accepted approach to them, and it is able, therefore, to concentrate on improvements of detail, rather than having to endeavor to establish fundamental methods and practices.

WHAT PRICE "UNIFORMITY"?: Just about 18 months have elapsed since practically all railway employees were rewarded with substantial wage increases after forcing the government to take technical possession of the carriers in order to avert a nation-wide strike called in the midst of a two-front war. Now the maintenance of way brothers are serving demands on their employers for increases in minimum hourly rates and for rule changes that would run up the payroll totals a lot beyond their present breath-taking altitudes. And it's not exactly a secret that other unions have like ideas—and may even now be forming a queue to

catch the same bus. The proclaimed purpose of the M. of W. demands is to obtain country-wide uniform wage scales for each of the classes of employees which this union undertakes to speak for. While it appears that "uniformity" means one thing to them—higher wages—and quite another thing—lower rates—to Governor Arnall, the net effect of these antithetical approaches toward "uniformity" does promise to be (if attained) uniformly disastrous to the railroads' earnings, and credit standing, and ability to provide their share of peace-time employment.

RESERVATIONS LIMITED: The O. D. T. made another move last week to discourage civilian use of passenger trains when it ordered the railroads not to reserve seat or sleeper space more than 5 days in advance of departure date. At the same time Director Johnson revealed that the return of troops from Europe is ahead of schedule, making passenger-miles faster than was anticipated. Further accounts of these developments, as reported in the news pages, afford the civilian traveler cold comfort.

HARRISON PROPOSES: A cogent analysis from the unions' point of view of the railroads' prospects in the heat of the post-war competition for business has been prepared by George Harrison, the clerks' grand president, and appears on page 9 of this issue. The writer calls for joint consideration by managements and unions of the favorable and unfavorable factors that employees and employers will be faced with when the war ends, and suggests a specific program for joint action to overcome the difficulties of intensified competition through cooperation, rather than to intensify them by controversy. As noted therein, railroad presidents and brotherhood leaders sat down together in New York recently to discuss some of the issues that this program deals with, and that meeting appears to have been animated by the cooperative spirit which this article calls for.

EMERGENCY RULES: Because serious accidents to passenger trains are such rare occurrences on individual railroads, and even more so on individual divisions, it is not surprising that the officers and men immediately in command in such situations are not always prepared to foresee and cope with some of the unexpected duties that come their way as a result of wrecks. An editorial this week calls attention to the failure of the usual rule book to make provision for such emergencies, and suggests matters that might be dealt with, so that employees will know what to do to alleviate the inconvenience and discomfort the railroad's customers may have to endure on these occasions. Guided employment of thoughtfulness and courtesy will at least be able to mitigate the unfavorable impressions such experiences may leave on the travelers involved, rather than aggravate them by unintentional and unnecessary indifference or neglect.

CITIZEN'S OBLIGATION: Judge Fletcher, speaking recently to a Y. M. C. A. Transportation Conference, urged his hearers to give some thought to where we are bound, to the need for ceaseless alertness to combat a growing sentiment in this country for a collectivist form of government. An energetic and well-financed and competently guided group is very busy preaching the gospel of state control over the nation's productive powers, he pointed out, and it is the duty of believers in the American democratic system to combat these tactics, to stimulate the interest of their fellows in the preservation of their individual opportunities and personal freedoms, in order that no such system of state despotism can flourish here. His argument is set forth in these pages.

LEADERSHIP LACKING: The leading editorial herein focuses attention on the lack of leadership in this country's political parties in the precise field to which Judge Fletcher referred. Even though government spending to increase subsidized competition with private enterprise is probably the easiest means for the promotion of state socialism and the quickest way to destroy private enterprise and the democratic system, consistent and outspoken opposition to these insidious policies of government control and public spending is conspicuously lacking in the major political parties.

BUYING POWER: During the first three months of this year the Class I roads spent an average of \$2,711,000 every day for materials and supplies bought from manufacturers, exclusive of fuel and equipment, according to the article in this issue in which the mixed trend of purchases statistics is analyzed. Back in 1940, when things were plentiful and priorities and open-ending hadn't even been thought of, the railroads were spending about \$1,000,000 a day less for manufactured products, it is instructive to note. To some extent these figures reflect current higher prices. To some extent they reflect greater needs growing out of a vastly greater volume of business. But they also reflect the substantial improvement in the railroads' ability to spend money which their war-time earnings have brought about. After the war the railroads will spend as freely as their peace-time earnings permit. How freely will depend a lot on the extent to which government and industry require the railroads' competitors to stand on their own feet, too, without aid from the taxpayers.

NEWS NOTES: The House committee has put off consideration of the brothers' bigger benefits bill until fall. . . . The Santa Fe's Earle E. McCarty succeeds the Burlington's J. H. Aydelott as director of the O. D. T. Railway Transport Department. . . . Net was up for May, the Class I roads' total being almost \$5.7 million ahead of last May. . . . The Shippers Boards expect third quarter loadings to be about 1.1 per cent below the corresponding 1944 period. . . . The Army has "reluctantly" furloughed 4,000 railroad men.

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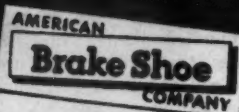
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RAILWAY AGE

Political Leadership Against Socialism

The result of the election in Great Britain on July 5 is not known as this issue of *Railway Age* goes to press; but, whatever its result, British believers in private enterprise were more fortunate in their political leadership than American believers in private enterprise have been during recent political campaigns, or are now. Prime Minister Churchill boldly and ably attacked socialism as it was being advocated by the Labor party, showing that it would inevitably lead to totalitarian government, and thereby to destruction of every form of economic and political freedom, as it had in Russia, Germany and Italy.

The defense of private enterprise and opposition to socialism have had, and have now, no such outstanding and consistent political leadership in the United States. The New Dealers who have long dominated, and apparently still dominate, the Democratic party, have promoted and continue to promote policies of government control and spending which, as a whole, would substitute national socialism for private enterprise. The Republican party is supposed to be opposed to such policies, but has had and has now no outstanding leader who consistently opposes them. Its leadership in the Senate advocates high tariffs, which are a form of subsidy to their domestic beneficiaries, are inimical to the full development of free competitive private enterprise and would hinder post-war increase of foreign trade. Probably the greatest menace to private enterprise is the promotion of huge government spending, federal, state and local, to increase subsidized competition with private investment in transportation, public utilities, housing, and so on. Such government spending tends toward the socialization of all the industries that already are affected or are menaced by it, and is, therefore, opposed by spokesmen of these industries. But no outstanding political leadership consistently and outspokenly opposes it, and apparently as large a proportion of representatives of the Republican party as of the Democratic party support it in the state governments and in Congress.

Mr. Churchill emphasized to the British people that the most important issue confronting them was private enterprise and democratic government versus socialism and totalitarian government. This was the situation in the United States at the time of the national elections in both 1940 and 1944; but, unlike Great Britain in 1945, the opposition to socialism in this country had no political leadership in 1940 or 1944 with enough intelligence and courage clearly to separate questions of war and foreign policy from questions of domestic policy and effectively to attack administration policies tending toward socialism.

Business and its spokesmen should consistently oppose all socialistic policies—which they do not now do—and create all the sentiment against them that they can. But the issue of private enterprise and democracy versus state socialism and totalitarianism will be finally decided by the voters of the nation. How they will decide it will depend largely on the kind of political leadership they are given. And they have not now or in prospect any political leadership against socialistic policies such as Churchill gave in Great Britain before this week's election.

Efficiency
FOR VICTORY

Study the Costs Before Removing Riders

The Diesel-electric road locomotive, like innumerable other new facilities that have come into the railroad field, has had to run the gauntlet of such of its critics as believed that time would prove it to be an expensive tool, particularly from the standpoint of maintenance. Some railroad officers, when Diesel road power first came into use, were so confident that this would be true that they accumulated operating cost data in considerably greater detail than had ever been done with steam, apparently in order, eventually, to prove the case.

Detailed facts with respect to an operation so complex as that of the use of railroad motive power are always valuable and, now, after several years we have figures available concerning steam as well as Diesel that throw considerable light upon the ability of modern motive power of whatever type to reduce the cost of railroad operation.

This paper within recent weeks has published several reports on the performance of motive power. Evidence has been presented of the ability of well-proportioned and well-designed steam power to operate in both freight and passenger service with maintenance costs varying from 11.5 to 25 cents a mile. Now let's look at a four-year record of Diesel freight and passenger locomotive operation.

The first table shows cumulative costs of 30 million passenger-unit-miles and 7 million freight-unit-miles of Diesel-electric locomotives.

Year ended	Costs per Mile of Diesel-Electric Locomotive Maintenance and Operation			
	Maintenance cost per unit-mile*		Operating cost per unit-mile†	
	Freight	Passenger	Freight	Passenger
June 30				
1942	\$0.080	\$0.117	\$0.136	\$0.091
1943	0.111	0.122	0.173	0.104
1944	0.119	0.135	0.183	0.112
1945**	0.115	0.151	0.184	0.116

* Includes cost of attendants.

** 10 months only.

† Exclusive of engine crew wages.

Note: The unit in freight service is two body units, 2,700 hp.; in passenger service a single-body unit, 2,000 hp.

These figures are interesting if for no other reason than their consistency and the revelation of certain obvious facts relating to motive power, namely, the increase in cost with age and the relation of cost to character of service.

The second table shows the relationship of the cost of labor, material and attendants, in percentages of the total, involved in the maintenance of the same group of locomotives.

	Freight			Passenger		
	Percentage of Total			Percentage of Total		
	Labor	Material	Attendants	Labor	Material	Attendants
July, 1942	45.2	12.7	42.1	39.4	46.1	14.5
July, 1943	28.5	24.5	47.0	39.2	45.5	15.3
January, 1944	30.9	30.5	38.6	40.2	45.3	14.5
July, 1944	33.2	30.9	35.9	40.3	43.4	14.3
January, 1945	34.3	37.3	28.4	38.5	48.8	12.7

These figures indicate changing conditions under which this power is operated. As the equipment passes out of the initial period of use, and both operating and mechanical departments become more familiar with it, there are evidences that, since it is a piece of machinery

operating in railroad transport service, the maintenance cost relationships will, in the long run, not differ widely from those of steam or electric locomotives.

Many railroad officers are discussing the possibilities of removing "riders" from road Diesel locomotives. To those who may be inclined to consider such action from the standpoint of expense alone it may be worth while to suggest a careful study of the maintenance cost records of roads that have eliminated these attendants. Such a study may reveal that the rider or attendant should be looked upon as a combined inspector and repair man. The rider is in a position to find and do something about the minor defects that may easily develop into major repair jobs by the time a locomotive reaches its terminal. To remove the riders from road locomotives would probably result in allowing defects to go until discovered and remedied at terminals, with a resulting increase in repair cost that could easily more than offset the cost of the rider.

There is pressure from several directions upon many mechanical officers to remove the attendants from Diesel road locomotives in order to "reduce expense." One chief mechanical officer, faced with such pressure, expressed himself as being entirely willing to charge the entire expense of riders to the locomotive repair account in full confidence that by so doing the maintenance cost, including attendants, would be no greater—and conceivably could be less—than the cost where no riders are used.

Ubiquitous Box Cars

Under present operating conditions box cars must be literally everywhere at once, and it seems to be difficult for any trade or industry to understand why its particular needs are not given outstanding priority. One of the reasons for present box car shortages may be traced to the idea that the box car was not as important a war transport weapon as open-top cars. In the early years of the war, emphasis was laid on gondolas and flat cars as the crying need. Even as late as the first five months of this year, of the total of 18,818 new freight cars installed, only 8,386 were box cars, as compared with 10,432 cars of other types.

The subordination of box car building in the early years of the war is perhaps understandable. There was less production then and more construction to provide for increased production. The need for open-top cars was widely publicized then, whereas there seemed to be, and actually were for a time, enough box cars to go around. However, as production became more important as compared with construction, the need for box cars became more pronounced.

The requirements of military secrecy have prevented dissemination of figures as to the increasing use of box cars for ordnance loading, and it would be unwise even now to release such figures in too great detail. Thus, the need for open-top cars for military transportation still seems to remain uppermost in the minds of many shippers, who regard box cars as more or less assigned to civilian needs or at least to purposes only indirectly connected with the war effort. If it were possible to broadcast box car loading figures at even a few of our huge ordnance plants, this erroneous impression would

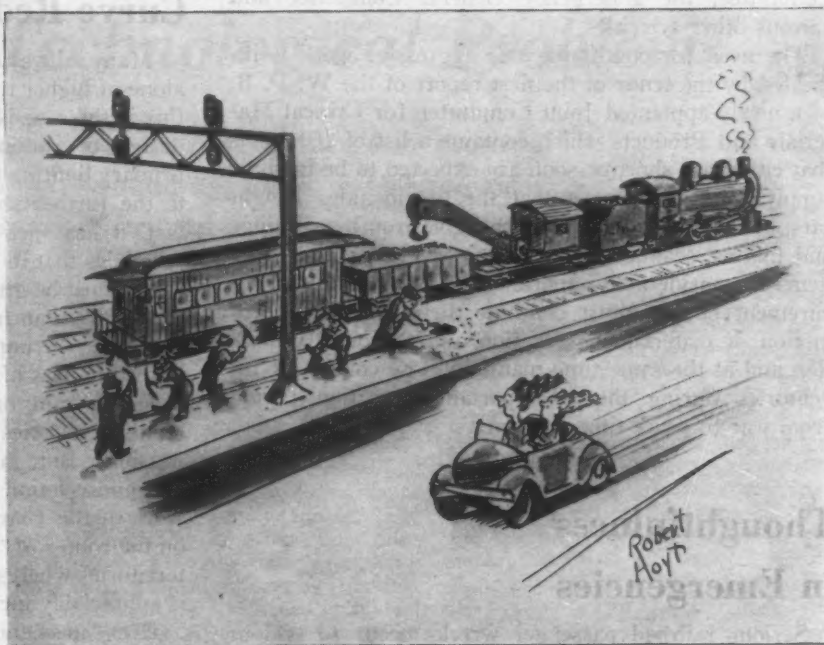
soon be dissipated. Shells and other munitions of war pouring out of the gigantic ordnance plants in staggering quantities require Class A box cars of the same type as are suitable for grain loading, for example.

The railways have endeavored to broadcast this fact, but always in a rather desultory and ineffective fashion, largely because they were unable to release the figures that would prove their statement. Colonel Johnson of the O. D. T. knows what the situation is, yet his inability to cite actual figures rendered his stinging reproof to the grain trade ineffective. In fact, despite this reproof and further releases indicating that the grain trade is not being discriminated against, the belief still remains that wheat shippers are getting a raw deal. Only a week or two ago, the usually well-informed Walter Scott, one of the spokesmen for the wheat shippers, rebuked the O. D. T. and the Car Service division of the A. A. R. for their alleged lack of consideration for "the shipper at the crossroads—easily forgotten." Mr. Scott is a reasonable man and for years has been a leading figure in effective railway-shipper co-operation in getting the wheat moved, yet the failure of the railways to publicize what is actually happening caused him to become rather bitter.

It may be that it is still inadvisable to release figures on the ordnance loading of box cars. But more and better publicity should be used to convince the shippers that box cars, as well as open-tops, are vitally needed for military tonnage, and that box car shortages are not attributable to inefficiency or lack of consideration on the part of the railways.

The Job Isn't Finished for Procurement Officers

Among the most influential back-of-the-scenes factors in the epic of war-time mass transportation are the achievements of individual purchasing and stores departments and the Purchases and Stores Division of the Association of American Railroads. Originally established as service organizations to buy, store and handle materials efficiently, railway procurement departments have been expanded to include deliveries directly to using departments, extensive reclamation of materials, the promotion of thorough utilization and the handling of scrap. It has been through their efforts that requisitions have been filled more intelligently, that handling costs have been reduced substantially and that well balanced inventories have been maintained. After three and one-half years of war comes the realization of the effectiveness of the methods that have been employed.



Can You Believe It, Eloise — George Says Those Fellows' Wages Are Paid by the Railroads, Not by Us Taxpayers!

Fortunately for the railways, long-established and highly organized procurement departments prevented their being caught off balance by the introduction of such a multitude of stringent war-time material controls.

Handicapped by lack of precedent in undertaking their new and exacting duties during one of the most critical periods in our history, purchasing and stores officers have solved some of the most complex material problems that ever have taxed their ingenuity and resourcefulness.

It has been largely through the efforts of railway procurement forces and the officers, General Committee and members of the Purchases and Stores Division that few, if any, units of rolling stock have been tied up for any appreciable period during the emergency because of the lack of repair parts or supplies. The far-reaching influence of thorough co-ordination is reflected by the report of the General Committee, those of 14 subject committees and a valedictory article prepared specially for *Railway Age* by Louis P. Krampf, retiring chairman, which appear elsewhere in this issue. Further evidence of the value of the A. A. R. is the effectiveness of the work of the P. & S. Division which has been maintained and intensified without the benefit of any annual meetings since 1941 and during a period when individual members have been burdened with so many extra duties.

Mr. Krampf's article describes briefly the Division's activities during the past four years, the efforts of individual members who were loaned by their railways to government agencies, the splendid liaison work between government agencies and the railways that in large measure was promoted through the efforts of the executive vice-chairman, the aggressive action of the P. & S. Division that has been carried out through the General

Committee, the Emergency General Committee and various other activities.

The need for continuing this aggressive work is indicated by the tenor of the first report of the W. P. B. of a newly-appointed Joint Committee for Critical Materials and Products which contains a list of 101 items that either are short or soon are expected to be in short supply. It is significant that the list includes freight cars, crossties, lumber, coal, malleable iron pipe fittings and unions, seamless pipe, tubes, wire nails and other items of considerable importance to the railways. Procurement officers must continue their aggressive promotion of material conservation and thorough utilization and at the same time maintain close control of inventories during the all-important transition period from war to peace-time economy.

Thoughtfulness in Emergencies

Serious railroad passenger wrecks occur so seldom on a given road or in the same locality that there is sometimes a lack of comprehension and leadership in covering thoroughly all those important details that should be attended to in administering to the comfort and convenience of the survivors. Indications of this may be found in the comments of passengers who may complain that they were forced to go an unreasonable time without food and refreshment which they had reason to believe might have been forthcoming, if in the excitement railroad officers or employees had sensed the situation and exercised better judgment. An ample supply of hot coffee will go a long way on such occasions.

Naturally the passengers are nervous and jittery at such times. Naturally also, they are anxious to get word home or to their friends or offices that they are safe. Most wrecks occur at places where communication services are limited. Moreover, passengers cannot understand why relief trains may be held up in out-of-way places or outside station limits, rather than in a station where communication facilities are more adequate. Nor can they understand why they cannot be informed as to just how long the train may be held in a station. A suggestion has been made that in such cases the railroad might undertake the responsibility of gathering the names and destination addresses of the survivors and forwarding them in a telephone or telegraphic message in order that railroad employees at destination can get word to the homes or offices of the travelers as to their safety and when they may be expected to arrive. Such a blanket message—or a few of them—would certainly require much less time and facilities than many individual messages.

Matters such as these are not covered in the operating rule book. Should they not be given a prominent place in such instructions—tersely stated but including those details that experience has indicated should be attended to promptly?

Thoughtfulness and courtesy mean much to the passengers on such occasions.

Curve Reduction

Many railway officers think of curve reduction in terms alone of higher train speeds and shorter schedules. That this is the case is not surprising, because under present designs of roadway and equipment, track curvature is the primary limiting factor to high-speed train operation and to the further shortening of many train schedules. In fact, it has such an important bearing on speeds and schedules that its reduction or elimination in many territories must be given much more serious consideration in the future than in the past if the railroads are to afford the public the improved service it is being promised.

In this class of work many curves must be reduced to 1 deg. 30 min. or less, and this must be done over extended territories to permit the full operating advantages possible. But, in addition, with a fuller understanding and appreciation of the advantages of curve reduction, work of this character will go far beyond that necessary on the routes of "streamliners", and will extend even to territories where the least of the advantages to be gained is appreciably increased speed.

Every mechanical department officer knows of the increased wear of wheel and tire flanges that results from sharp curvature, and, what is more serious, that such curvature is far more likely to emphasize equipment defects, resulting in derailments, than tangent track or relatively light curvature. Operating men, too, know well of these facts, the first of which is evidenced to them in the greatly increased train resistance in heavy curve territory, and the latter from their direct contact with derailments that occurs in train service.

These additional factors should not be overlooked in any study of future curve reduction work, and there are still others—excessive rail wear, abnormal destruction of the crossties, and increased man-hours of maintenance generally—which demand consideration. Excessive rail wear on sharp curves is either in the form of abrasion of the high rail or mashing of the low rail, and may well result in double or treble the normal rail requirements and costs on tangents or light curves. Deterioration of the ties, even if equipped with tie plates of adequate design, weight and size, is accelerated materially on sharp curves by the respiking necessary in connection with regaging operations, and their outright destruction is greatly increased by the large percentage of derailments that occur on sharp curves.

Considered together, these factors will warrant far more curve reduction in the future than is now contemplated, and in terms not only of bringing curves down to 2 deg. or less, but also of reducing curves of 8, 9 or 10 deg. or more, down to 5 deg. or less. One road, recognizing the advantages in the latter regard, has carried out several extensive curve reduction projects in recent years, and has several such projects under way at the present time, all in mountain territory where it is happy to limit maximum curvature to 3 deg., and even 5 deg., because of the advantages of such curves over those of 8 and 10 deg. In this case, high-speed train operation is not the goal. The primary purpose is sharply reduced track maintenance costs and safety, generally improved train operation. This may be a relatively new concept of curve reduction work to some, but not to many, and the future is certain to see its far more general acceptance.

Post-War Technological Problems

Railroads as a mature industry are over growing pains and have sound approach to technological advance in track structures, locomotives and cars

RAILROADS are a mature industry and went through their early growing pains a great many years ago. We see similar conditions of technological confusion in other younger industries today. In the radio receiving set field, for instance, it has been only within the past few years that the question of battery power versus alternating current house supply was settled. In the aircraft industry we all remember the debate as to whether aircraft should be of monoplane, biplane or even triplane construction. That question is settled, but the questions as to whether propellers should push or pull and whether the engines should be liquid or air cooled are still active. The automobile industry is well established but argument continues as to whether the engine ought to be in front or behind.

Early Problems

Railroading in its early days went through technological uncertainties comparable to those just mentioned. Horses were used as motive power on the first railroads. Serious consideration was given to the use of sails as motive power. In Great Britain an attempt was made to propel railroad cars by means of a piston operating in a continuous cylinder laid between the rails. The cylinder contained a continuous opening along its top which was closed by a flexible flap. A connection between the car and the piston extended through this flap. Large air pumps exhausted the air from the cylinder ahead of the piston and the atmospheric pressure of the air on the other side caused the piston to move along the cylinder and thus propel the car. Leakage and rapid wear of the flap valve doomed this experiment to early failure. A continuously moving cable mounted under and between the rails is still used as a means of propelling street cars. The steam engine was early adopted as motive power for railroads and the genesis of the present locomotive was about a hundred years ago. A horizontal boiler internally fired with cylinders directly coupled to the driving wheels by rods and with the exhaust steam discharged up the stack in order to create sufficient draft to maintain a high combustion rate of fuel, still describes the fundamentals of the steam locomotive.

The cars in which loads are carried

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went through a stage of experiment and development before what we describe as the standard car was available. We might conceivably have built our trains as integral units rather than assembling them from independent cars by coupling. We also might have provided individual driving engines on each car instead of pulling an entire train with a single locomotive at the head end. Our track construction was similarly developed with many cut-and-try experiments. The first rails were wood, later covered with thin strap iron. Some early track was supported on stone blocks. The present standard "T" section rail did not evolve as a standard type for many years.

Because railroads have thrashed out most of these fundamental problems, it often seems to those who are not familiar with railroading that little or nothing remains to be done in the way of technological progress and it also seems to those unfamiliar with the subject that little technological progress is being made by railroads as compared with the momentous and revolutionary changes which are occurring rapidly in other industries. The type of technological progress now being made on railroads is quite different from the rough-and-tumble decisions of early railroading days. Our present problems are essentially those of improvement of detail rather than original selection of possible methods of operation. Problems of this type do not make spectacular stories.

Economics of Progress

Railroads have for many years been able to transport commodities and people without restriction. Improved practices, therefore, are directed towards doing the transportation job better rather than toward the earlier problems of trying to establish transportation initially. The fundamental foundation today for all of our railroad technological problems is an economic one and the basic question which must be answered in every case is "Will it pay?"

Because of the relatively high ratio of fixed to total costs which characterizes railroad operation, a small change in the total amount of business results in a relatively large change in the financial picture. For this reason we have the most urgent necessity of attempting to

find more economical methods of operating in order to survive periods of poor business. Furthermore, we have the probability of increasing labor and material costs.

We must perform our task of transportation better and more economically than in the past and our technological problems arise on that account. There are literally thousands of such problems.

Tracks

In our maintenance-of-way operations we use what we call standard rail sections. The section of a rail means the shape and weight per yard of length. The tendency today is toward the use of heavier rail sections and in the past 20 years the average weight of all rail in service has increased approximately 20 per cent. Since rail has an average life of over 20 years, this means that the weight of new rail being purchased and installed is much greater. Heavy rail requires more tons of steel per mile of track than light rail and it costs more. The maintenance of track is, however, considerably reduced by the use of heavier rail because of its greater stiffness with consequent less tendency to disturb cross ties and ballast under traffic and because the heavier sections take longer to wear out and the labor cost of renewal is, therefore, not repeated so frequently. We are not able yet to write a mathematical formula which will tell us what is the most economical rail section for given conditions of traffic intensity, grades, supporting power of the soil, etc. Our choice of rail sections, therefore, is at the present time on a judgment basis.

The design of the rail itself is a subject of much research today. Through the newly developed science of strain-gage measurements, we are able to measure stresses in the various parts of a rail in actual use under varying conditions of load and train speed, and through the results of such research we are able to improve the rail design so as to reduce the likelihood of failures and to prolong life. Some of the techniques of this work have only been developed during the war. With the likelihood that trains will operate at higher speeds in the future, and rail stresses increase with speed, we are developing the foundation of information to design rails which will be adequate for the higher future speeds.

What we support our rails on in the construction of track is an item of much concern. The wood crosstie is standard

This article is based on a paper presented before the twenty-third annual meeting of the Academy of World Economics held in Washington, D. C., on May 3-6, 1945.

for that purpose. A great many other designs and materials have been tried in crosstie manufacture but none has proved competitive with wood. Until a few years ago we used untreated ties. Under those conditions the average life of a crosstie was about eight years, by which time decay had so weakened it that the spikes would no longer hold and it was replaced by a new one. More recently we have adopted the use of pressure-creosoted crossties. From early experimental work we know that the life of such a crosstie is several times that of the untreated tie. Whereas with the untreated tie decay was the reason for discarding it, with the creosoted tie mechanical wear and not decay causes its eventual destruction. We are today experiencing an average life of about 25 years on our creosoted ties and, if we can further improve the mechanical wear condition, we can anticipate extending this figure. In order to reduce the abrasion under the rails, it is standard practice to apply a steel tie plate which distributes the load from the rail over a considerable area of the crosstie. We have a research project under way at the present time in developing details of stresses in tie plates and we hope to arrive at a scientific and accurate basis of tie-plate design.

With the increasing sizes of tie plates adopted as a means of prolonging tie life, the expense of tie plates becomes a large item and efficiency in use of metal, which can only be achieved through intelligent design, therefore, becomes a major problem.

Rail Welding

The question of how to connect up individual rails in the building of a track is an active one. Extensive studies are being made as to the possibility of welding rails together, thus avoiding the expense of the joint bars and bolts and the maintenance expense of keeping the bolts tight. Because of its high carbon content, rail steel cannot be welded by the simple methods used on soft, easily weldable steel. The welding of rail steel can be accomplished safely only with an elaborate, expensive and meticulously controlled procedure. A good many miles of railroad track have been built with welded rail connections and technologically it appears to be a success. Economically, however, the answer is not yet clear, since, because of the perfection of technique necessary, it is considerably more expensive initially to weld than to use bolted joint bars.

One problem which is involved in the welding of rails arises because of the expansion and contraction of steel with temperature changes. In our climate, with an average annual temperature variation in excess of 100 degrees, a steel rail will expand and contract more than 1/2 in. per 100 ft. With our conventional joint bar construction, this expansion and contraction is compensated by the rails slipping in the joint bars which are constructed so as to permit this. In the case of continuously welded

rail, however, there can be no slipping, and the tendency of the steel to expand or contract, therefore, results in quite high compression or tension in the track structure. This results in the necessity of unusually heavy ballasting and anchoring of track constructed by welding methods, since, without this secure restraint, the temperature stresses, particularly on curves, would tend to displace the track laterally from its proper location and might even push it completely off the roadbed. This problem has been solved and it is possible to maintain welded track without difficulty.

Locomotives

In the field of locomotives we have a very active series of technological problems. In general, locomotives have been growing larger; that is, newly built locomotives are usually of greater power than those which they replace. The one reason for this is that the large locomotive is a more efficient transportation tool than the small one. This has nothing to do with scheduled speeds or ability to haul individually heavy loads. The large locomotive has some advantage over the smaller in its thermal efficiency, that is, the percentage of the total heat available in the fuel which it converts into tractive power available for pulling loads. The larger locomotive is also a more efficient transportation tool in connection with the employment of labor and locomotive servicing facilities. By permitting the operation of longer trains, larger locomotives can increase the capacity of a given section of railroad.

Much debate occurs today as to the fundamental type of locomotive and the magazine article writers are busy announcing revolutionary developments in the form of steam turbines, gas turbines and Diesels. Unfortunately, the answers are not as easily obtained as these writers imply. The present cylindered steam locomotive in its most advanced designs is a far more efficient machine than its counterpart of only a few years ago. Nevertheless there is the possibility of great development in other basic types.

The Pennsylvania Railroad, for instance, has recently built a turbine locomotive in which a conventional locomotive boiler drives a steam turbine which is directly connected by reduction gears to the driving axles. At low speeds this locomotive is much less efficient in its use of steam than a cylindered locomotive. At high speeds, however, the relationship is reversed and the turbine locomotive is more efficient. The turbine locomotive avoids the dynamic effect of reciprocating parts on the engine itself and on the supporting track structure. It should have economic advantages on that account. It is still too new a unit for any final conclusions to be drawn as to its desirability.

A few weeks ago another railroad, the Chesapeake & Ohio, announced the projected building of some steam-turbine locomotives which, instead of being gear driven, will be electrically driven. In

this case the steam turbine will be coupled to an electric generator which in turn will furnish power to electric traction motors at the driving axles. This design will have the advantage of permitting the turbine to operate at its optimum speed regardless of the locomotive speed over the rails.

We are much interested in the possibility of Diesel-powered locomotives and a great many of these are already in operation. A Diesel locomotive costs about three times as much as a steam locomotive of equivalent performance. The Diesel is advantageous due to its extremely thrifty fuel performance, which, although it burns a petroleum distillate fuel much more expensive than coal, permits it to deliver horse-power at a lower fuel cost than coal burning locomotives. It appears that the economy in fuel cost is great enough to offset the larger initial investment and still offer an attractive net saving in overall operation.

The efficiency of the modern Diesel locomotive in burning fuel is surprising. We have a number of large freight Diesel locomotives on my railroad of 5400 hp. We are producing a thousand ton-miles of transportation at the expenditure of just over two gallons of Diesel fuel oil. That means we are getting approximately five hundred ton-miles from one gallon. As a comparison, assuming that my automobile actually gets fifteen miles to the gallon of gasoline in accordance with OPA rationing regulations, I am producing, since the car weighs 1 1/2 tons, approximately 22 ton-miles of transportation from one gallon of gasoline. Gasoline and Diesel fuel are similar although not identical products. It is a valid conclusion to state that our Diesel locomotives produce with the same amount of fuel over 20 times as much transportation as the average automobile engine produces. Not all of this tremendous difference can be ascribed to the greater engine efficiency; part of it is due to the relatively low rolling resistance of steel wheels on steel rails and to efficient grades as compared with the greater resistance of rubber tires on highways and relatively inefficient grades.

Choice of Power

There is much speculation today as to whether the Diesel locomotive will ultimately replace the coal-burning steam locomotive. Uncertainty as to the future of Diesel fuel supplies at present price levels makes speculation of that sort uncertain. We are sure that there will be sufficient Diesel fuel to supply our present Diesel locomotives over their anticipated life. Much publicity has been given to the rapid depletion of our domestic petroleum reserves and the likelihood that our petroleum supplies will to an increasing extent be imported and presumably more expensive. That is a problem which we must study and settle each time we purchase a locomotive. So far, we see no reason to be fearful about
(Continued on page 33)

Frequency Allocations Explained

A. A. R. Operations and Maintenance Department explains train communications requirements as developed up to date

THE first report on radio frequency allocations was released by the Federal Communications Commission on May 25, 1945 (*Railway Age*, May 26, 1945, page 936). Since the report covered not only railroad but all applications of radio in the 25-30,000 megacycle range, with various provisions for use of clear and shared channels, the Association of American Railroads, Operations and Maintenance Departments, issued an explanatory letter to member roads dated June 8.

An abstract of this letter follows:

Channel Width

The Commission has adhered to its original decision with respect to channel width, providing in the 152 to 162 megacycle band a 60-kilocycle channel. The report indicates that during early development stages of new services equipment requiring a channel in excess of 60 kilocycles may be authorized, but the Commission also cautions that persons installing such equipment may be required to modify or replace it in order to operate within the 60 kc. channel width.

The Commission's report has not specified the channel widths applicable to stations which may operate in the television channels in the 44-108 megacycle region and the 186-216 megacycle region. It would appear, however, from the information given in the Report that the applicable channel widths would be about as follows:

44-108 megacycles—50 kc. channel
186-216 megacycles—75 kc. channel

Assigned Frequencies

The Commission has indicated in its report that the 60 channels assigned for the use of railroads primarily for end-to-end service are to be located at the upper end of the 152-162 megacycle band. This means, therefore, that the band of frequencies assigned for use by railroads extends from 158.4 mc. to 162.0 mc. and frequency No. 1 will be 158,430 kc.; frequency No. 2 will be 158,490 kc.; and so on at intervals of 60 kc., frequency No. 60 being 161,970 kc.

The actual frequencies available for railroad use in the television bands have not as yet been stated by the Commission, and must await the completion of a national plan for assignment of television channels which, in turn, probably will not be made until the Commission has reached a decision with respect to allocation of frequencies in the 44-108

mc. band. In the Commission's final report on allocation of frequencies above 25 mc. it is stated that the proposed report which was issued by the Commission on January 15, 1945, is adopted as the final report of the Commission, except as modified or brought up-to-date by the final report issued on May 25, 1945. Therefore, the number of channels in television bands which have been allocated by the Commission for use of railroads and the service for which intended is as follows:

Use:	Number of Channels
Yard Communication	20
Terminal Communication	33

These channels, in addition to being shared with television, may also be shared with the other services in the band 44-108 megacycles. A frequency selected at this time is subject to later change in the event:

1. That the frequency selected is not in a television channel under the Commission's final allocation of this band, and

2. That the frequency selected is finally assigned for use by a television station in the same area as the railroad station.

Of course, in the band 186-216 megacycles only the second possible cause for a change of frequency exists.

The various frequency bands begin-

that railroads give consideration to possible use of these frequencies. It will also be desirable that consideration be given to which one of the bands appears to be most suitable for railroad use, since, obviously, if railroad use of these frequencies is concentrated in a particular band there is greater probability that a permanent allocation will be made for railroad use. This matter will be considered by the Radio Committee of the Section and report made thereon when more information on equipment and characteristics of these frequencies is disclosed.

Shared Frequencies

The Commission, in its final report, has definitely stated that the frequencies assigned primarily for end-to-end and fixed points to train service may be used interchangeably for other types of communication in the railroad radio service. The Commission sounds a precautionary note, however, with respect to the possibility that all channels assigned for end-to-end service may, at some future date, be required for that service, with the result that yard and terminal stations may be required to move to other frequencies. While this appears to be the case for congested areas, such as the Chicago, St. Louis, Kansas City, and

Service

COASTAL AND SHIP

COASTAL AND SHIP

SPECIAL EMERGENCY

PROVISIONAL

Possible Use by Railroads

Ship and coastal telegraph stations operating in ferry services either on the Great Lakes or other waters.

Ship stations for communication with coastal harbor stations established by telephone companies in various harbors, lake and other inland water areas.

Emergency stations operating on medium frequencies over distances in excess of that obtainable on the frequencies allocated above 25 megacycles for initial restoration of service in the event of breaks in telephone or telegraph wire circuits.

For emergency communication between fixed points in the event of failure of existing wire lines.

Intermittent use of a radio communication service that requires use of radio for limited periods of time or at irregular intervals of time at locations where other communication facilities are not available or the use of other facilities is impracticable.

Allocation Below 25,000 Kc.—(In most cases frequencies are shared with other services)

Frequencies in 100-160 kc.; 415-490 kc.; 2050-2065 kc. and several other bands in the higher frequencies.

2100-2300 kc.
2350-2495 kc.

Frequencies not specified in FCC report except that "adequate number" will be made available.

ning at 1325 megacycles are available to railroads, in common with any other fixed and mobile service, on an experimental basis. Some few years hence the Commission will undoubtedly take cognizance of the experimental services which are then established in these bands and may take action to assign certain bands or portions of bands on a permanent basis. It is desirable, therefore,

Peoria districts, it is believed that it will be possible in most other localities to utilize these frequencies for yard and terminal service without danger of interference to the end-to-end and point to train communication. Such use is being considered in connection with the national allocation plan being prepared by this Section for transmittal as a rec-

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Preservation of the American System

**Today's patriots must fight to maintain our
ideals of free democracy and free ourselves
from the shackles of bureaucratic control**

RECENT events and current discussion here and elsewhere cause some of us to wonder whether we have certainly won this war. Can it be that the fruits of victory so hardly accomplished will turn to ashes on our lips, as the result of subtle forces that are seeking to establish in our midst political systems that are identical with those we have ostensibly overthrown? Would it not be the height of bitter, tragic irony if our post-war political and economic system were organized upon lines suggested by Karl Marx and his disciples, precisely the same principles that culminated in the rule of the Nazi and Fascist dictators? That is the question to which I wish to direct your earnest, thoughtful attention.

At the very core of the Hitler philosophy is the postulate that all the rights and privileges of the individual must be subordinated to the welfare of the state, considered as an organism vested with authority to control all the activities of the citizen that have any relation to the social order. Thus, the state must decide who shall be educated and along what lines; what profession or occupation each should follow; what commodities should be produced, by whom, and at what price they should be sold; what religion, if any, should be permitted; what gods should be revered; what cultural agencies should be permitted; what number of children should be begotten—the catalogue of directed and restricted activities could be indefinitely protracted. It was against this blighting and intolerable tyranny that we took up arms.

But in France, that favored land of freedom and beauty, whence we derived many of our fundamental theories of government, a recent election for municipal officers indicates a trend that is alarming. In Great Britain the Labor Party has boldly proclaimed a policy of government ownership and operation, not only of public utilities, such as railroads, motor and air vehicles, but of coal mines, banks and other important basic enterprises. It may be stated here, by way of parenthesis, that this platform is not endorsed by the great majority of labor leaders and spokesmen in America. There is to be a general election in Great Britain in July, at which the

By JUDGE R. V. FLETCHER

*Vice-President
Association of American Railroads*

electorate of this great democratic nation will pass upon this question. At this time it can only be said that the great leader of the free thought of the world, Winston Churchill, is struggling valiantly against the sinister forces of collectivism in his gallant little island. In this election he carries the hopes and prayers of every lover of liberty everywhere. Mr. Churchill, in his inimitable fashion, has penetrated to the very heart of the issue when he declares that there can be no program of the sort advocated by labor in Great Britain without the support of a Gestapo. In other words, a vote for socialism is a vote for military tyranny. It seems to me that such a conclusion is inevitable, although the proponents of the totalitarian principle earnestly argue the contrary.

The Road to Despotism

This idea of an all-powerful state in control of all the activities of the industry is not new, by any means. Through all the eras of recorded history, every despot has followed the same pattern, which consists of exalting the state at the expense of the liberty of the individual. From the days of the tyrant Pisistratus in ancient Greece, to Hitler in modern Germany, the story is the same. There is a fierce denunciation of the capitalist class; there are sneers of contempt directed against the middle class, designated as the "stinking bourgeoisie," to which class belong the professional men, the farmers, the manufacturers, the bankers, the shopkeepers and the skilled workers—the very bone and sinew of our American life. There are the same specious promises of equality, with the old bait of bread and circuses, so potent in the Rome of the Caesars.

If these arguments prevail and state socialism is approved, some demagogue with unusual powers of persuasion will emerge as leader of the faction, and with the aid of a palace guard, more or less extensive, he will be able to say, as did a tyrant of the old regime in France, "L'état c'est moi" (I am the State). Once in the saddle, such an ambitious

despot can easily follow the pattern of all his predecessors and make himself invincible, as did Mussolini in Italy and Hitler in Germany, by the terror of a well organized and extensive Gestapo. In other words, the source of power lodged in the people under a democracy at once passes to a bureaucracy selected and controlled by the arch-tyrant, whose power is based on military strength and the force of terrorism. No other result is possible under a system which exalts the state as the supreme and all-inclusive master of the fortunes and the destiny of the people.

It Can Happen

We are prone to say, out of the depths of our indolent complacency, that a thing like this cannot happen here. But we must remember that we can no longer live to ourselves. Whether we relish the role or not, we are a member of a world-wide association of nations, and a very important member at that. This is true, whatever may be the outcome of the San Francisco and similar conferences. Within the space of twenty-five years we have been drawn into two world wars, neither of which had its origin in the Western hemisphere. Both of these wars began in the Balkans, and involved the effort of a socialized state to extend control over the continent of Europe. When this hegemony was accomplished, manifestly, as we correctly surmised, the next step would be to overthrow the democracies of America. That danger we have superficially averted by the force of arms.

But now we must face the even more dangerous effort to accomplish this sinister purpose by the enchantment of the siren song of the benefits that would follow the abandonment of the democratic dogma in favor of the very philosophies which we have so strenuously opposed on the bloody battlefields of North Africa, Italy, France, Germany and the isles of the Pacific. If this effort prevails in Europe and in Asia, we may be hard put to it to sustain our traditional system here in the United States. Already, it is being suggested that we should follow the example of certain small European states that have lately been experimenting with socialistic theories. In our own country, we have a militant, well financed, active minority that in speech and press and over the radio, is preaching the doctrine of state control over the productive energies of our people. Taking advantage of our feeling of gratitude for the superb war effort of the Soviet Republic, we are being urged not only to emulate the prowess of that great nation in war, but to follow as well its example in the matter of peacetime controls by the head of the state.

Tyranny Must Not Be Tolerated

We must be on the alert here in the United States to combat this growing
(Continued on page 10)

This is an abstract of an address before a Y. M. C. A. Transportation Conference at Richmond, Va., May 23, 1945.

A Union View of Post-War Prospects

Enlivened competition will pose serious problems for railroads and their employees, which they should tackle by cooperation rather than by controversy

By GEORGE M. HARRISON

*Grand President
Brotherhood of Railway Clerks*

IN the enormous task of reconverting our economy from war to peace the railroads, in common with comparatively few other basic industries like steel and mining and agriculture, occupy a rather unique and in many respects favored position.

Unlike our great automobile plants, for example, where the manufacture of automobiles was stopped and the machinery for making automobiles was replaced with machinery for making tanks and guns and airplanes, the railroads' war job was simply that of providing more of the same thing they have always produced, namely, transportation.

Although the railroads will not be confronted with the same problems, nor will their problems be as difficult in many respects as those confronting many industries when military victory is complete, come V-J Day, they and their employees—particularly the latter—will be faced with plenty of problems, and acute ones too.

Intensified Competition

Recently a number of railroad presidents and heads of railroad unions met and discussed these matters. President M. W. Clement, of the Pennsylvania, took the leadership in organizing these meetings. When Japan is defeated and world peace returns, the railroads of this nation will have transported the greatest volume of passenger and freight traffic in their history. This record is being made with insufficient equipment and man-power. Employees have worked long hours and the railroad plant is badly worn. The tracks have been badly pounded and there is substantial deferred maintenance work to be done. Rolling stock is badly worn and there is much obsolescence of plant and equipment. Additions and betterments that have been made were chiefly to assist in the war effort and will be of but limited advantage to the railroads in the post-war period. Normal programs of improvements in the plant and services were deferred during the war because of the inability of the railroads to get the needed equipment and man-power.

Probably the most serious managerial problem which will face railroads after the war will grow out of the greatly intensified competitive transportation situation, the result in part of retarded

technological changes during the period of the war—with progress in this field by other forms of transportation. The airlines should be in an advantageous position because of greatly expanded operations and available technological advances in air transport made during the war, plus much surplus war equipment that can be used for some types of air transport. Airport facilities have been extended during the war and many new airports will probably be built at government expense shortly after the war ends. Technical aids to air navigation will also be installed at an accelerated rate with the help of the government in the near future.

The inter-city bus and truck industries will continue to be serious competitors for some types of traffic, except for a brief period immediately after the war. Their rolling stock is worn out and costs have risen. Operators have not been able to accumulate reserves to finance new plants and equipment and it will take some time to take care of these requirements. The industry will probably get much valuable assistance through the public providing new and modern highways and by credits from equipment manufacturers and the producers of supplies and petroleum products. When the private automobile returns in substantial volume it will divert a large portion of passenger traffic from the railroads.

Inland water transportation has changed materially since we entered the war and further developments are expected. Much new towing equipment and barges have been built and are now in service; new terminals have been developed and valuable experience and knowledge have been gained in the economic handling of cargo by inland water carriers, and in recent years much new personnel has also learned the inland water transport business. If surplus bottoms are made available to the inter-coastal and coastwise shipping industry at fairly reasonable prices and if the great advance in refrigeration and the shipping of perishables by sea made since the beginning of the war, is utilized, there is bound to be a substantial expansion in this branch of transportation shortly after the war at the expense of the railroads.

The restoration of tanker services at the end of the war on an augmented

basis seems certain. Oil pipelines not only have been greatly extended, but their pumping facilities have been improved and modernized, and these facilities will provide serious competition for transportation of petroleum products.

It is out of these circumstances that the post-war problems of the railroads and their employees will arise. They will be difficult and challenging, and will call for the highest degree of joint consideration of which the industry is capable if they are to be mastered by management and labor. But it would be an exaggeration to hold that the railroads will be confronted with an unavoidable crisis as soon as the war ends. This is more apt to be the case with railroad labor when the impact of reduced hours, returning military service veterans and furloughed employees is felt.

First Major Consideration

The seriousness of the railroads' competitive difficulties will be in inverse ratio to the overall prosperity of the country, and this prosperity in turn will be in direct proportion to the levels of business and employment which prevail throughout the country. If we have high levels of business and employment, there will be ample traffic for all legitimate, well-managed, efficient, modernized carriers. If we do not have reasonably high levels of business and employment, many transportation companies will have difficulties that may in turn be visited upon their employees, creditors and owners. It would appear, therefore, that the first major determination to be made in the matter of post-war policies and objectives for the railroad industry is the extent to which it can contribute to high levels of business and employment by taking up the lag which has developed in the industry in the fields of maintenance and modernizing the plant, equipment and services; personnel practices and improvements in compensation and conditions of labor. Rebates on government traffic should be discontinued and the conference method of fixing rates subject to I. C. C. approval should be legalized.

On the basis of my analysis of the prospects, certain suggestions and recommendations are advanced for the joint consideration and action of the representatives of railroad labor and management.

Here in brief outline are the factors which, on the one hand, are likely to prove the most serious difficulties shortly after the restoration of peace, and on

This article reproduces, practically verbatim, a presentation prepared by Mr. Harrison for publication in the official magazine of his organization—copy of which he kindly supplied in advance to *Railway Age* with permission to publish it.—EDITOR.

the other hand, those which should prove advantageous in meeting them.

From the industry standpoint these are the unfavorable factors: (a) Recession in traffic, (b) increased competition, (c) deferred maintenance, (d) obsolete plant and equipment, (e) surplus plant, (f) out-of-line labor standards and objectionable labor practices and policies, (g) retarded physical working conditions, (h) recent interference by government with rate-making policies.

The favorable factors are: (a) There are no problems of reconversion from war to peace, (b) traffic levels will continue to be high until Japan is defeated and will remain at profitable levels during the post-war period, (c) tremendously improved current assets, including greatly increased cash-on-hand and temporary cash investments, (d) greatly enhanced public good will, (e) exceptional opportunities for modernizing plant and rolling stock, (f) opportunity to contribute substantially to high levels of business and employment, (g) exceptional opportunities for improving service generally, (h) growing realization of value of intelligent, constructive personnel practices.

From the standpoint of the men and women who work for the railroads the unfavorable factors are: (a) Reduction in hours and take-home pay, (b) reduction in job opportunities, (c) reorganization of working force due to replacement by returned veterans, (d) surplus of railroad workers generally, (e) increased insecurity of employment, (f) outmoded and inadequate working and living facilities, (g) out-of-line labor standards, (h) unsatisfactory carrier labor practices and policies.

The favorable factors are: (a) Increased supply of technically competent railroad workers, (b) growing disposition to cooperate with railroad management in the solution of the problems confronting the industry and the country, (c) fine record of achievement for the war effort, which can be extended into the peace effort, (d) wholehearted subscription to the policy of adjustment of all differences between labor and management by orderly processes.

A Suggested Program

To facilitate the task the following program is suggested:

1. Assist in maintaining high levels of business and employment.
2. Immediate development of orderly program looking toward cleaning up deferred maintenance.
3. Accumulation of deferred maintenance funds now for use in post-war period.
4. Immediate development of a five-year railroad modernization program of services, plant and equipment.
5. Surplus funds should be used and increase in debts should be discouraged.
6. Maximum of railroad work to be done by railroad employees.
7. Immediate development of an or-

derly long-range employment stabilization program for the railroads and their employees.

8. Joint legislative support for
 - (a) Repeal of rebates on government traffic.
 - (b) Conference method (subject to I. C. C. approval) of fixing rates to be legalized.
9. Immediate joint study of total Railway Labor Act situation for the purpose of expediting adjustment of disputes on each property.
10. Modernizing of railroad labor standards as to wages and conditions of employment.
11. Acceptance of concept by railroad management and labor that the post-war problems of the railroads and their employees deserve mutual consideration and action and should not be permitted to become the basis for labor and management demands and disputes.
12. The organization of consultative labor-management machinery to implement this concept.

Frequency Allocations

(Continued from page 7)

ommendation to the Federal Communications Commission.

Operator Licenses

With respect to operator license requirements, a formal petition was filed with the Federal Communications Commission on June 1, 1945, requesting that the Commission issue an appropriate order permitting railroad employees to operate radio transmitting equipment without operator licenses. It was suggested that the Commission might satisfy itself that railroad employees were properly qualified by requiring that the employee successfully complete an examination given by railroad examiners on a few simple rules pertaining to the use of radio transmitting equipment. A set of suggested rules has been approved by the Radio Committee of Direction of the Communications Section, and the General Committee of the Operation-Transportation Division, was attached to the petition.

Allocation Below 25 Mc.

On May 21, 1945, the Commission issued a "Report of Proposed Allocations Below 25,000 Kilocycles." No frequencies in this range are allocated specifically for the use of railroads. However, railroads in common with other agencies may participate in the use of frequencies assigned to the services which are shown in the accompanying table.

It is understood that the Commission is proceeding with the drafting of its rules and regulations for establishment of the "Railroad Radio Service."

The American System

(Continued from page 8)

sentiment for a collectivist form of government. We will, in all probability, have the problem presented to the American people, soon after the conclusion of hostilities. Then our Congress will be called upon to decide to what extent we will project into the peace-time economy the present systems of controls of industry found necessary in time of war.

We are being told that, obviously, these controls must continue for a time until the transition from war to peace is carried out. But what will be the length of this transition period? Who is to decide when the transition is complete? Shall the decision be left to the bureaucrats who are administering these controls, or will the momentous question be determined by the representatives of the people, definitely instructed to end this tyrannical regime as soon as possible?

Here lie the duty and the obligation of the citizen. Here will be found the supreme opportunity for all of you who are engaged in imparting the lessons of citizenship. At stake in this coming struggle are not only our cherished ideals of a free democracy. There is also involved our system of morals and the very essentials of the Christian religion which it is our pledge to support. We are members of a Christian fellowship. We have undertaken to quicken the interest of our fellow citizens in the problems of citizenship. I urge you, as faithful devotees of our religious faith and as enlightened patriots, to see to it that everywhere your voice can be heard, you impress upon our people the importance of this vital issue, so that when they go to the polls, they will cast their suffrages only for those definitely pledged to the preservation of our American system—under which there is a clear recognition of the worth and dignity of the individual, and where opportunity is afforded to every citizen to live his own life and to work out his own destiny, free from the shackles of bureaucratic control. This is an issue that rises above partisanship and transcends the limits of sectional interests and prejudices. In truth, we stand at Armageddon, and battle for the ancient faiths upon which rest the very pillars of this fair State.

SCRAP SALVAGE.—The Pennsylvania, through J. L. Layton, emergency salvage director, discloses that during April, P. R. R. scrap shipments to steel mills totaled 36,642 tons.

TRAVELING LIBRARIES.—The Canadian National reports that its free circulating libraries on C. N. R. trains operating between Halifax and Montreal, Montreal and Vancouver, and Toronto and Vancouver, have proved "extremely popular," with many passengers who do not finish books before leaving the trains, reserving these volumes for return trips.

A.S.T.M. Carries on with Short Meeting

Confines its activities to action on the formal standards and other essential society business at intensive one-day session at New York, June 27

BECAUSE of the importance of strict control over materials during war-time, and at least to some extent in the early post-war period to come, every effort was made by the American Society for Testing Materials to continue its work aggressively during the past year, and this was done, although war-time transportation conditions forced the society to confine its annual meeting to a one-day business session. This session was held at the Hotel Pennsylvania, New York, on June 27, in conjunction with a meeting of its New York District. The regular five-day meeting, originally scheduled for June 18-22, at Buffalo, N. Y., was cancelled. Also cancelled was the exhibit of testing apparatus and related equipment usually held at the meetings in alternate years. The one-session meeting in New York was attended primarily by officers of the society, committee chairmen and members and guests from the New York Metropolitan area. Despite the handicaps mentioned, 150 members and guests registered their attendance.

Many Standards Considered

The change from the usual annual meeting in no way affected the progress made during the year by many of the society's standing committees. Reports were presented by most of these groups and recommendations for adoption or

revision of formal standards were carried through by the usual process; approval at the restricted annual meeting to be subsequently referred to members of the society for letter ballot. At the meeting 35 tentative standards were adopted as standard and 40 revisions of formal standards were adopted. No action was taken on tentative specifications. Instead, newly proposed tentative standards and revisions of tentative standards were referred to the society's Committee on Standards. This group met in New York on the morning of June 27 and accepted many recommendations, including upwards of 55 new tentative standards and 56 revisions of tentative standards.

Most of the reports and many of the technical papers to come before the society were preprinted and distributed to members for written comments and discussion. By this means, and by advance meetings of individual committees, the work of the society was carried on and many problems relating to materials and tests were considered. The many technical papers which would normally have been presented at the annual meeting were not presented at the meeting on June 27. However, most of these papers have been completed and in line with a new publication policy of the society, a number of them will be published throughout the year in the A. S. T. M. bulletin. As in past years, many of these reports and papers of the society deal

with materials and tests of interest to the railroads.

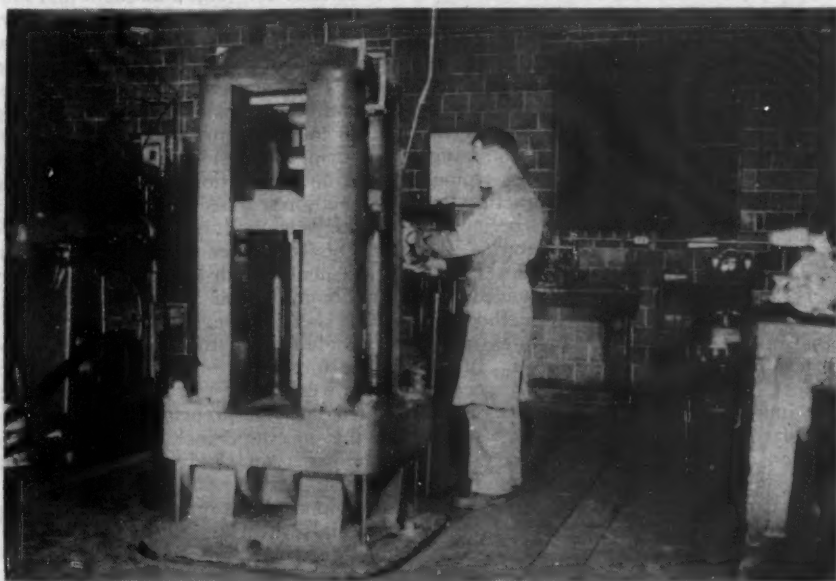
The business meeting of the session at New York was presided over by President P. H. Bates, chief, Clay and Silicate Products Division, National Bureau of Standards. In the election of officers, J. R. Townsend, materials engineer, Bell Telephone Laboratories, Inc., was elected president, and T. A. Boyd, head, Fuel Department, Research Laboratories Division, General Motors Corporation, was elected vice-president. Following the business session and a dinner sponsored by the New York District, a technical session was held with two addresses, one, the annual president's address, by President Bates, and the other by Rear Admiral Louis B. Combs, assistant chief, Bureau of Yards and Docks, U. S. Navy. Admiral Combs spoke on "Preparing the Way for Victory With the Sea-Bees," and described the tremendous expansion in the Navy's civil engineering corps and the Sea-Bees. Following his address, a Navy film, "The Construction and Operation of the Floating Drydocks," was shown for the first time.

President's Address

Speaking on Preparations for the Future of A. S. T. M., President Bates praised the aggressive attitude of the society in broadening its activities and in planning a number of administrative changes. He told of the work of the Special Study Committee behind the decision of the society to broaden its work to include (1) Simulated Service Testing, including tests on parts and assemblies, and (2) Ultimate Consumer Standards. He also explained that the society was reviewing its publication policies. As a result of this study, he explained, it has been decided to publish all technical papers immediately following acceptance. He also pointed out that various committees are still considering possible improvements relating to the manner of publishing the Proceedings and Books of Standards of the society, as well as changes in the Bulletin.

President Bates praised the development and activities of district committees during the year. He also mentioned a reorganization and extension of the headquarters staff which will soon be effected, one phase of which will be the assigning of a member of this staff to keep in contact with each group of technical committees.

The report of the Executive committee of the society, presented at the busi-



Many Railroads Have Well-Equipped Laboratories for Testing Materials

ness meeting by C. L. Warwick, secretary-treasurer, was a general review of the condition of membership and of administrative matters. In it, reference was made to several important new developments, including changes in the administration of society affairs, involving among other things the establishment of a board of directors of 15 as the governing body of the society instead of the present Executive committee.

The report of the Committee on Standards reviewed the action taken by the committee during the year with respect to emergency standards and emergency alternate provisions, and mentioned that steps are being taken to determine the desirability of the society undertaking standardization work in the field of leather and asbestos-cement products.

Metals Considered

As in previous years, a large number of committee reports and papers were prepared dealing with the general subject of metals. While the Committee on Steel had no recommendations on formal standards, it will submit a large number of actions to the Committee on Standards in July, involving castings, pipe and tubing, and other items of interest to the railroads.

The report of the Committee on Iron-Chromium, Iron-Chromium-Nickel and Related Alloys contains tentative specifications, recommended for adoption as standard, for nickel and nickel-base-alloy clad steel plate, and mentions that the program on atmospheric corrosion tests of stainless steels is being continued.

Included in the report of the Committee on Light Metals and Alloys, Cast and Wrought, are revisions in the specifications for magnesium alloy products, which are under consideration, and a description of a system of designating aluminum alloys, adopted by the committee.

Important recommendations were made by the Joint A. W. S.-A. S. T. M. Committee on Filler Metal, which have been approved by the American Welding Society and the A. S. T. M. Standards Committee. These recommendations involve extensive revision of the tentative specifications for iron and steel arc-welding electrodes, and include the addition, as information, of a guide to the A. W. S.-A. S. T. M. Classification of Iron and Steel Arc-Welding Electrodes. The guide explains the significance of various specifications for electrodes, not only as applied to iron and steel, but those used in the non-ferrous field as well, and describes the numbering system used, which is now widely applied. It also includes carefully prepared descriptions of electrodes in the E-60 series of classifications, including mechanical and physical properties, maximum welding currents that can be used, and an idea of the specifications that can be met with each type. The report of this committee also reviews the consideration that is being given to other

specifications for filler metal of nickel and nickel alloys, for copper and copper alloy electrodes, and for stainless steel arc-weld-electrodes.

One of the numerous papers on the general subject of metals accepted by the society, but not presented at the meeting, was titled, A Theory of the Mechanism of Rusting of Low Alloy Steels in the Atmosphere, prepared by Harry R. Copson, International Nickel Co., Inc. This paper presents an analysis of rust samples, along with an examination of weather data and some weight losses, and explains that copper and nickel in steel render sulfate corrosion products more insoluble by forming complex basic sulfates. On mild steel the sulfates in the rust are relatively soluble and promote corrosion, but are washed away by rain. On alloy steels the sulfates are less soluble, so that corrosion is slower, but less sulfate is washed away and more accumulates in the rust. The percentage of sulfates in the rust increases as weight loss decreases.

Cement, Clay Pipe and Wood

The Committee on Cement made no formal recommendations in its report, but submitted as information proposed specifications for portland-blast-furnace slag cement and a proposed method of test for the fineness of portland cement. Also included as information were proposed revisions to be recommended in the specifications for portland cement and in the specifications for air-entraining portland cement, as well as in the methods of sampling hydraulic cement. Other parts of the report include a resume of other activities of the committee and a tabulation of data on comparative short-time tests for sulfate resistance of 121 commercial cements.

In a brief progress report, the Committee on Clay Pipe refers to the new tentative specifications for extra-strength clay pipe and for standard strength clay sewer pipe, accepted by the Committee on Standards during the year. These specifications were prepared in an effort to co-ordinate all the specifications for standard strength and extra-strength clay pipe now available, and are considered a definite step toward obtaining national uniform standards for clay pipe. The standard recommended practice for laying sewer pipe is being reviewed, looking toward possible revision.

The Committee on Petroleum Products and Lubricants recommended for publication as tentative a method of analysis of petroleum sulfonates, published last year as information. In its report, revisions are also recommended for immediate adoption of seven of the standard methods of test under the jurisdiction of the committee, and reference is made to the reorganization of Technical Committee B on Lubricating Oils, and to the formation of a new Technical Committee G on Lubricating Grease. Appended to the report as information is a proposed method for estimating the maximum pour points of lubricating oils

containing pour point depressants, together with a proposed method of test.

The Committee on Wood, formerly the Committee on Timber, reported considerable activity during the last year and in its report tells of steps that have been taken to broaden the scope of committee activities on a variety of subjects and materials. No changes were recommended in current specifications by its subcommittee on specifications, but it was pointed out that the question of increased working stresses is being given careful study, and that consideration is also being given grade requirements of timbers subjected to tension. The subcommittee on wood paving blocks reported that it is contemplating the submission of proposed specifications for wood paving blocks for interior use.

Although the subcommittee on timber preservatives did not submit any revisions of the eight current specifications under its direction, it reported that it is considering the preparation of new specifications for various preservative salts. The report does present, however, new proposed tentative methods of determining the moisture content of wood. Also included are revisions in the tentative methods of testing veneer, plywood and other wood and wood-base materials, comprising several new test procedures which supplement present methods.

The report of the Committee on Soils for Engineering Purposes records the approval during the year by the Committee on Standards of a new tentative method of test for determining the cement content of soil-cement mixtures. It also reports the completion of a new test for the specific gravity of soils and reviews activities in considering other methods of testing soils.

Water for Industrial Purposes

The Committee on Water for Industrial Uses submitted new tentative methods of tests for total aluminum and aluminum ion, manganese, dissolved oxygen, and silica in industrial waters, and a recommended practice for sampling water from stationary boilers. The report refers to consideration that is being given to a recommended practice for measuring corrosion in water supplies, based on the National District Heating Association corrosion tester, and to a tentative method of field test for the tendency of boiler water to cause embrittlement, which has been accepted by the Committee on Standards for publication as tentative.

In addition to the reports mentioned in the foregoing, other reports of direct or indirect interest to railroad men, accepted but not preprinted or presented at the meeting, include those of the committees on Coal and Coke; Paint, Varnish, Lacquer and Related Products; Bituminous Waterproofing and Roofing Materials; Mortars for Unit Masonry; and Metal Powders and Metal Powder Products. Still another report in the same category is that of the Research Committee on Fatigue of Metals.



L. P. Krampf

There's Work to Be Done!

Unrelenting transportation needs demand the continued application of many developments promoted, during the last four years, by the Purchases and Stores Division

ALTHOUGH victory in Europe has changed the aspect of the entire war and while as a result the struggle may be considered half won, the transportation of military materials and personnel has by no means been simplified. In the face of what once were considered by some as insuperable odds, the American railways have been handling the greatest transportation job of all time for more than three and one half years. Functioning as an integral part of our great war machine, although classified with civilian industry, they have attained their achievements with records that have brought mutual distinction and credit to individual lines and to the entire network as a whole. With more than 300,000 trained employees serving in the country's armed forces, and harassed by material and equipment shortages, nevertheless, by carefully coordinated teamwork, the splendid co-operation of all departments of individual

By L. P. KRAMPF

*Past Chairman, Purchases & Stores Division, A. A. R.**

railways, and the broad co-operation of shippers, the Office of Defense Transportation and other government agencies, our railways have met the challenge by carrying more ton-miles of freight and have provided more passenger transportation than in any other comparable period.

Contrary to the effect upon many other industries, victory in Europe has intensified the many rail transportation problems, for with the redeployment of military forces to the Pacific comes a new phase which will tax the ingenuity of all railway departments in meeting the nation's schedules of war. Greater burdens are bound to fall on all depart-

* Supply Agent, Missouri Pacific.

ments, particularly among the railways in the central and western sections of the country. Under these circumstances, it is to be regretted that it has been found impracticable to hold the annual convention of the Purchases and Stores Division, especially in view of the fact that no annual meeting has been held since the summer of 1941.

Organized Procurement in War

It is fortunate for the nation that when war came, railway procurement departments were so well established and so well organized; for it is largely to their credit that the systematic procurement of critical materials and the introduction and distribution of suitable substitutes have enabled our railways to carry on. It has been through the untiring efforts of the Purchases and Stores Division that procurement problems have been squarely faced and solved even though it has been necessary to modify and to curtail the general activities of the Division for a full four years.

By reason of these war-time restrictions greater responsibilities and greater burdens have been placed upon the Division officers and the members of the General Committee, not to mention individual members of the fraternity who were loaned by their railways to government agencies in Washington, and to other members who have devoted such a large proportion of their time to serving on various consulting committees. It was to improve the liaison work between government agencies and the railways and to promote a more equitable distribution of controlled materials that the office of our executive vice-chairman was transferred to Washington early in the war. It has been through the untiring efforts of the executive vice-chairman and his organization that the Division has been so successful in promoting a better understanding of railway material requirements and insuring the receipt of a fair share of many of the critical items.

Although the activities of the Division have been circumscribed to a large extent during the last four years, nevertheless it has been through its intensive efforts that, in large measure, few if any pieces of rolling stock have been tied up for any appreciable period because of the lack of repair parts or materials. The aggressive action of the Division has been manifest particularly with periodical meetings of the General Committee, as well as those of the Emergency General Committee which was duly authorized to expedite activities in cases of emergency, the work of the Committee on Scrap, the efforts of the Forest Products Committee, monthly meetings of the Fuel Oil Committee, and the regional meetings that were called from time to time to carry out the proposals of the Controlled Materials Plan which, as far as the railways are concerned, became effective on April 1, 1943.

In the course of these general activities the Purchases and Stores Division
(Continued on page 16)

First Quarter Purchases Ease Off

Mixed trend reflects the scarcity of some materials but Class I railroad expenditures for many products manufactured for general maintenance reach new high

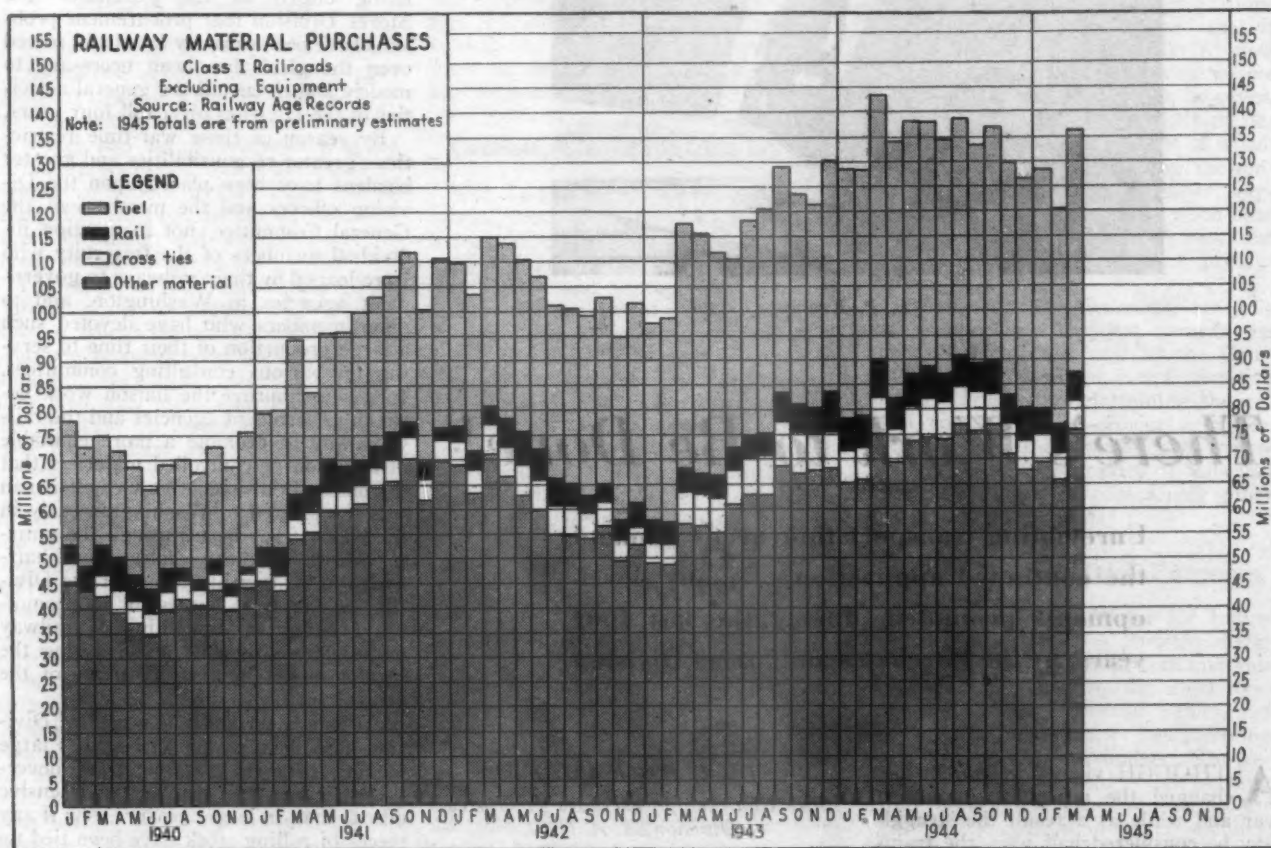
EXPENDITURES for fuel, materials and supplies (but excluding equipment) by Class I roads during the first three months of 1945 amounted to \$385,135,000, or a reduction of four per cent compared with the \$400,699,000 total for the first quarter of last year, according to estimates prepared by Rail-

way Age and based upon special reports received from 80 individual carriers.

Although these estimates and a study of the graph seem to indicate that the easing of railway purchases during the first quarter is evidence of a turning point in the general trend, purchases are still at a very high level. For instance,

this year's first quarter expenditures were 22 per cent greater than for the same period in 1943, 17 per cent greater than those of 1942's first quarter, 51 per cent greater than for the first three months of 1941 and 70 per cent more than for the comparable period in 1940.

The easing of governmental control



Railway Purchases January, February and March 1940-1945 Class I Roads

Miscellaneous Materials and Supplies—In Thousands							Fuel—In Thousands					
	1945*	1944	1943	1942	1941	1940	1945*	1944	1943	1942	1941	1940
January	\$69,256	\$64,987	\$49,000	\$68,988	\$45,387	\$45,506	\$48,283	\$50,341	\$39,883	\$32,851	\$27,254	\$24,965
February	65,676	65,693	48,407	63,148	43,400	39,870	43,791	50,041	41,542	31,991	27,894	24,208
March	75,907	75,033	56,911	71,103	53,988	42,589	49,105	53,277	49,297	34,025	31,113	21,870
Three Months	\$210,839	\$205,713	\$154,318	\$203,239	\$142,775	\$127,965	\$141,179	\$153,659	\$130,722	\$98,867	\$86,261	\$71,043
Cross-ties—In Thousands							Total Materials Less Fuel—In Thousands					
	1945*	1944	1943	1942	1941	1940	1945*	1944	1943	1942	1941	1940
January	\$5,724	\$6,895	\$4,037	\$4,871	\$3,434	\$4,116	\$80,054	\$78,305	\$57,848	\$76,930	\$52,280	\$53,123
February	5,607	6,675	4,530	4,814	3,475	3,916	76,641	78,632	57,277	71,775	52,164	48,564
March	5,648	7,370	6,481	6,100	4,042	4,625	87,261	90,103	68,110	80,969	63,190	53,209
Three Months	\$16,979	\$20,940	\$15,048	\$15,785	\$10,951	\$12,657	\$243,956	\$247,040	\$183,235	\$229,674	\$167,634	\$154,896
Rail—In Thousands							Total All Materials and Fuel—In Thousands					
	1945*	1944	1943	1942	1941	1940	1945*	1944	1943	1942	1941	1940
January	\$5,074	\$6,423	\$4,811	\$3,071	\$3,459	\$3,501	\$128,337	\$128,646	\$97,731	\$109,781	\$79,534	\$78,088
February	5,358	6,264	4,340	3,813	5,289	4,778	120,432	128,673	98,819	103,766	80,058	72,772
March	5,706	7,700	4,718	3,766	5,160	5,995	136,366	143,380	117,407	114,994	94,303	75,079
Three Months	\$16,138	\$20,387	\$13,869	\$10,650	\$13,908	\$14,274	\$385,135	\$400,699	\$313,957	\$328,541	\$253,895	\$225,939

* Subject to Revision.

of many manufactured products is reflected in the first quarter's total purchases of miscellaneous materials and supplies for the general maintenance of equipment and fixed properties, which amounted to \$210,839,000 and established a new war-time high for the first quarter, exceeding those of the same period last year by two per cent, those of the first three months of 1943 by 37 per cent, similar purchases for the first quarter of 1942 by 4 per cent, and those of the first three months of 1941 and 1940 by 46½ and 65 per cent, respectively. Incidentally, this is the only material classification which showed an increase; purchases of cross-ties dropped 19 per cent; rails were off 20 per cent and fuel purchases were down 8 per

cent compared with the first three months of 1944.

Exclusive of fuel, Class I railroads spent \$243,956,000 for products from manufacturers. This is approximately one per cent less than during the first quarter of 1944 when expenditures for rails, cross-ties and all other miscellaneous materials and supplies amounted to \$247,040,000 compared with \$183,235,000 in the first three months of 1943, \$229,674,000 in the same period of 1942 and \$167,634,000 in 1941. This year's purchases in this category topped the \$154,896,000 spent during the first quarter of 1940 by 57 per cent. During the first quarter of 1945 Class I roads spent an average of \$2,711,000 every day for materials and supplies bought

from manufacturers. These purchases continued at approximately the same rate as during the first three months of last year but they were \$675,000 per day more than for the corresponding period of 1943 and were more than \$1,000,000 greater than the average daily amount that was spent for manufactured products during the first quarter of 1940.

Severe Scarcity of Cross-ties

Expenditures for cross-ties amounted to \$16,979,000, a drop of 19 per cent compared with the same period of last year, but 13 per cent greater than for the first quarter of 1943; 7 per cent more than for the first three months of 1942; 54 per cent more than for the comparable period of 1941, and 34 per cent greater than for the first quarter of 1940.

Although expenditures for cross-ties show a sharp drop compared with the same period of 1944, they should not be interpreted as representing a true gage of cross-tie production during the first quarter. Because the receipts of railways include both green and treated cross-ties, they do not reflect the gravity of production trends during the first 90 days of 1945 when the number of cross-ties dropped to approximately 66 per cent of 1944 production and 58 per cent of 1943 production for the same period.

The need for greater supplies of rail is evidenced by the fact that expenditures in this category dropped 20 per cent during the first quarter of 1945 compared with the same period of last year, although they showed an increase of 15 per cent above the \$13,869,000 spent for rails in the first quarter of 1943; 37 per cent more than the \$10,650,000 spent during the first quarter of 1942; 15 per cent greater than the \$13,908,000 spent in the first 90 days of 1941; and were 13 per cent larger than the \$14,274,000 expended for the same purpose in the first three months of 1940.

Fuel purchases for the first 90 days of this year amounted to \$141,179,000, a decrease of 8 per cent compared with the \$153,659,000 spent for fuel in 1944, an increase of 8 per cent over the \$130,722,000 spent during the first 90 days of 1943, 43 per cent more than the \$98,867,000 for the first quarter of 1942, 64 per cent greater than the \$86,261,000 spent during the first quarter of 1941 and almost double the \$71,043,000 spent for fuel during the first three months of 1940.

Inventory Values at New High

Materials and supplies in stock reached a new high on April 1, 1945, when they totaled \$614,142,000, which was 8 per cent more than on the same date last year, 19 per cent more than on April 1, 1943, 18 per cent more than on the same day in 1942, 65 per cent greater than on the corresponding day in 1941, 68 per cent above April 1, 1940, and 85 per cent greater than April 1, 1939, preceding the outbreak of war in Eu-

First Quarter Railway Purchases of Miscellaneous Materials and Supplies for Maintenance of Cars, Locomotives, Roadway and Structures (Excluding Rails, Ties, Fuel)

Railway	Mileage	1945	1944	Per Cent Change
Alton	959	\$1,067,157	\$868,577	+23
Alton & Southern	91	82,819	80,674	+3
Ann Arbor	294	151,613	127,727	+19
Atchison, Topeka & Santa Fe	13,093	11,816,246	9,179,042	+29
Atlanta, Birmingham & Coast	637	167,161	160,901	+4
Atlantic Coast Line	4,962	3,988,263	3,135,636	+27
Baltimore & Ohio	6,144	8,107,520	9,386,844	-14
Bangor & Aroostook	596	8,107,520	175,720	+43
Bingham & Garfield	33	20,432	27,977	-27
Boston & Maine	1,819	1,988,349	1,923,912	+3
Cambria & Indiana	35	22,460	44,948	-50
Central of Georgia	1,816	1,018,104	890,966	+14
Central of New Jersey	657	1,193,720	1,341,630	-11
Central Vermont	422	150,287	201,085	-25
Charleston & Western Carolina	343	168,349	111,905	+50
Chesapeake & Ohio	3,072	5,407,542	3,846,012	+41
Chicago & Eastern Illinois	912	849,667	823,352	+3
Chicago & Illinois Midland	131	200,298	96,908	+107
Chicago & North Western	8,077	4,353,019	4,493,633	-3
Chgo. M. St. P. & P.	10,411	6,171,588	5,545,043	+11
Chgo. St. P. M. & O.	7,751	3,940,286	4,063,451	-3
Colorado & Southern	1,617	622,881	646,484	-4
Columbus & Greenville	748	607,209	655,744	-7
Delaware & Hudson	168	33,215	34,418	-3
D. L. & W.	848	1,119,391	1,043,489	+7
Detroit & Mackinac	973	1,447,265	1,769,388	-18
Detroit & Toledo Shore Line	228	16,812	16,171	+4
Detroit, Toledo & Ironton	59	41,537	31,027	+34
Duluth, Missabe & Iron Range	464	105,340	121,062	-13
Duluth, South Shore & Atlantic	546	616,712	622,211	-1
Elgin, Joliet & Eastern	535	67,791	67,115	+1
Erie	392	503,564	571,123	-12
Florida East Coast	2,377	3,118,327	2,697,781	+15
Fort Worth & Denver City	682	661,234	649,595	+2
Great Northern	804	457,026	496,486	-8
Gulf, Mobile & Ohio	8,372	4,599,433	4,840,012	-5
Illinois Central	1,963	629,628	706,573	-11
Kansas City Southern	6,605	7,532,008	6,913,782	+9
Kansas City Terminal	878	758,591	1,510,641	-50
Lake Superior & Ishpeming	170	179,059	233,948	-23
Lehigh & Hudson River	156	39,474	45,510	-13
Lehigh & New England	96	52,949	54,989	-4
Lehigh Valley	190	103,420	80,368	+29
Louisiana & Arkansas	1,260	2,194,279	1,966,366	+11
Louisville & Nashville	854	287,532	286,853	-2
Maine Central	4,744	3,387,771	3,458,599	-2
Mississippi Central	964	460,952	498,457	-7
Missouri-Kansas-Texas	158	43,824	29,758	+47
Montour	1,798	1,709,113	1,752,756	-2
Nashville, C. & St. L.	51	70,996	62,096	+14
New York Central	1,072	983,537	1,206,812	-18
N. Y. C. & St. L.	10,534	18,134,414	18,328,243	-1
N. Y. N. H. & H.	1,688	1,681,273	1,562,863	+7
N. Y. O. & West.	1,838	3,585,789	3,592,517	-2
Northern Pacific	546	102,452	156,484	-34
Northwestern Pacific	6,609	3,649,611	3,636,588	-2
Pennsylvania and Long Island	331	33,651	34,453	-2
Penn.-R. S. S. L.	9,767	19,627,948	21,752,910	-10
Pere Marquette	393	81,952	96,285	-15
Pittsburgh & Shawmut	2,102	1,172,885	1,134,288	+3
Pitta., Shaw. & Northern	97	21,542	32,564	-34
Pitta. & West Virginia	190	13,595	23,355	-42
Reading	136	98,615	134,448	-27
Rich., Fred. & Potomac	1,374	3,988,641	3,709,177	+7
Rutland	118	703,874	669,669	+5
St. L.-S. F.	407	77,649	121,000	-36
Seaboard	4,646	2,787,568	2,488,847	+12
Southern	4,174	3,280,009	2,967,148	+10
Sou. Pac.-Pac. Lines	7,726	8,211,003	7,650,699	+7
Spokane, Port. & Seattle	8,262	10,536,517	13,138,971	-20
Tennessee Central	962	437,762	326,683	+34
Term. R. R. of St. L.	287	85,903	166,146	-48
Texas & New Orleans	367	465,776	385,129	+21
Texas & Pacific	4,335	2,649,707	2,167,402	+22
Union Pacific	1,884	1,944,806	1,953,896	-17
Virginian	9,782	10,492,970	12,671,820	-17
Wabash	657	943,357	1,536,468	-39
Western Pacific	2,394	2,256,507	2,337,824	-3
	1,195	1,301,500	1,134,900	+15

Materials and Supplies in Stock—Class I Railroads

	Fuel (000)	Rail, New & S. H. (000)	Cross- ties (000)	Stores Stock (000)	Scrap (000)	Total (000)
April 1, 1936	\$23,560	\$35,717	\$52,666	\$173,433	\$8,906	\$294,282
April 1, 1937	37,729	38,316	55,424	221,094	8,888	361,451
April 1, 1938	27,847	34,644	73,280	233,396	11,214	380,381
April 1, 1939	29,445	27,695	65,246	197,383	10,686	330,455
April 1, 1940	21,016	34,388	64,466	234,899	11,509	366,278
April 1, 1941	30,984	28,573	65,356	235,404	11,102	371,419
April 1, 1942	41,372	23,635	66,837	377,799	9,947	519,590
April 1, 1943	50,330	20,753	62,280	371,332	10,517	515,212
January 1, 1944	50,221	22,342	67,964	382,566	9,628	532,721
February 1, 1944	49,056	24,331	72,039	387,899	9,937	543,262
March 1, 1944	49,749	25,199	76,254	393,892	9,925	555,019
April 1, 1944	49,938	26,923	81,525	400,722	10,334	569,442
May 1, 1944	51,320	23,081	80,463	410,114	10,319	575,297
June 1, 1944	56,885	22,637	79,004	413,410	10,346	582,282
July 1, 1944	62,558	22,729	75,244	418,408	9,683	588,622
August 1, 1944	64,515	23,190	75,004	422,002	9,682	594,393
September 1, 1944	67,538	22,324	71,306	427,277	10,292	598,737
October 1, 1944	67,357	22,253	70,322	430,811	11,488	602,231
November 1, 1944	66,997	24,392	70,052	435,141	9,216	605,798
December 1, 1944	64,723	23,577	69,875	440,470	9,592	608,237
January 1, 1945*	59,182	24,292	72,434	437,575	10,155	603,638
February 1, 1945*	56,691	25,152	75,337	440,079	9,921	607,180
March 1, 1945*	52,349	26,952	78,175	442,691	10,935	611,102
April 1, 1945*	52,428	27,071	78,352	444,537	11,754	614,142

* Subject to Revision.

rope. Stores stock on hand amounted to \$444,537,000 or almost 11 per cent greater than on the same date last year and 125 per cent greater than April 1, 1939. Crosstie stocks reflect the serious lag in field production and were 4 per cent less than on the same date last year. Rail inventories were about the same as last year while fuel showed an increase of approximately 5 per cent in the last year. The table shows detailed information including monthly inventory figures for the entire year 1944 and up to April 1, 1945.

Work to Be Done!

(Continued from page 13)

promoted a six-point plan which also has been very effective in helping to promote successful procurement and distribution of railway materials as well as increasing railway production of all-important ferrous scrap. The six-point plan comprised: (1) the reduction of material inventories to practical minimums, (2) the ordering of maintenance materials on the current basis, (3) intensification of the standardization and simplification of material, (4) the promotion of material reclamation, (5) the promotion and use of substitute materials, and (6) all-out support in promoting the active collection and sale of ferrous scrap.

Reduction of inventories to a practicable minimum, either by use or through other disposition of the materials involved, centered especially on critical items, for, by using the materials themselves, or disposing of them to other railroads, individual roads helped themselves and their neighbors to reduce the demand on manufacturers. Railway procurement men have played an important part in the standardization and simplification of materials and coupled with this work has been the investigation, the introduction, adaptation and use of many war-time substitutes which have helped the railways to "keep

'em rolling." Similarly, they have taken a prominent part on committees appointed to determine the availability of materials and the formulation of plans for their adequate distribution.

Successful Scrap Drives

Outstanding among the efforts of the railways in war has been their enormous contribution to the several scrap drives that were conducted during the last four years. Here again, much of the success of these drives for the collection of scrap metals must be credited to individuals from purchasing and stores departments. It was through their efforts that so many inactive accumulations of structural steel and old rails, used as foundations for material storage, found their way in such large quantities to the scrap heap.

In promoting the reclamation and re-use of materials the P. & S. Division has been responsible for issuing a handbook detailing 700 ways for reclaiming, repairing and successfully re-using railway materials. As the supply of available materials diminished it was all the more important that the supplies that were obtainable should be reclaimed to serve their maximum life. Another important undertaking involved promoting unification of standards and liberalizing tolerances in conjunction with repair work.

The activities of the Purchases and Stores Division also extended to the conservation of car-miles in the distribution of railway materials; for, by pooling special cars for company materials, double decking for shipping mounted wheels and prompt release of cars, an appreciable reduction was made in the transportation and delivery of railway materials.

Perseverance Still Required

With the great industrial upheaval caused by war, the disruption of sources of supply, the rigid control of critical materials, the loss of trained officers,

supervisors, foremen and men to the armed services, and the additional burdens that have been heaped upon railway purchasing and stores departments, men long trained in railway requirements, systematic procurement and distribution have not had an easy task during these three and a half years of war. Nor is the end yet in sight, for, although we may anticipate the easing of many materials, it is yet too early to determine the impending effect of V-E day. A recent report of the newly appointed Joint Committee for Critical Materials and Products submitted to the War Production Board contains a list of 101 items that now are or soon are expected to be in limited supply, to the extent that they may embarrass war-supporting programs or civilian programs of high urgency. Prominent in this list are: freight cars, internal combustion and air-cooled Diesel engines, crossties and lumber, coal, lead, pipe fittings and unions of malleable iron, seamless pipe and tubes, wire nails, sheet and strip steel and many other items of considerable importance to the railways.

Not only is it important for railway officers to practice every means of material conservation and thorough utilization to help insure adequate rail transportation during the remainder of the Japanese war, but it must be remembered that conservation and better utilization also will play an important part during the period of lower gross railway income and intensified competition by other forms of transportation after the war. Probably one of the most important problems now facing purchasing and stores officers is that of strict inventory control coupled with even stricter scrutiny of current material purchases, for with the end of the war will come extensive abandonment of obsolete and worn out equipment which in itself may affect many millions of dollars worth of maintenance and repair parts in stock throughout the country.

Sees Better Understanding

On the other hand, out of the maelstrom of war with its complicated procurement of railway materials will come a better mutual understanding of individual problems. As a result, purchasing and stores officers will be better able to cope with the problems of the post-war period for having gained a more intimate basic knowledge and understanding of the specific problems of the using departments.

The several standing committees of the Purchases and Stores Division again have submitted pertinent reports which contain many valuable data and suggestions for promoting the more efficient procurement, use and reclamation of railway materials. Following careful review by the General Committee, these reports are being made available to railway procurement officers to help in the vital task of maintaining efficient mass transportation during the critical period before the unconditional surrender of Japan.

P. & S. Division Completes Busy Year

Fourteen reports of subject committees were adopted as new officers and members of the General Committee were installed at a meeting held in Chicago, June 28 and 29

OFFICERS and members of the General Committee of the Purchases and Stores Division, A. A. R., in a two-day session at Chicago on June 28 and 29, completed a year of intense activity that was punctuated by many disruptions in conjunction with the war-time procurement of the necessary materials and supplies to keep America's railways in operation. The meeting was characterized by the submission and release of 14 committee reports and the installation of new officers and members of the General Committee who were elected by letter ballot.

In accordance with the decision of the General Committee, pending changes in Rule 4 of the Plan of Organization, the membership of the General Committee was increased from 16 to 20 members including the chairman and the vice-chairman.

Also an emergency committee comprising five members of the General Committee and originally appointed in 1942 to provide for immediate action on important matters, has been continued for the duration.

E. J. Lamneck, general purchasing agent, Pennsylvania, was installed as chairman and was succeeded by C. H. Murrin, general storekeeper, Louisville & Nashville, as vice-chairman. W. J. Farrell continues as executive vice-chairman of the Division with headquarters at Washington, D. C.

L. P. Krampf, supply agent, Missouri Pacific, retired as chairman of the Division

after having served continuously since the last annual meeting of the Purchases and Stores Division that was held in Chicago in 1941. Mr. Krampf's tenure of office was marked by many complexities involving varied problems of war-time procurement and with which the officers, the General Committee and members of the P. & S. Division were confronted during the national emergency.

Because it was impracticable to hold the annual meeting this year, Mr. Krampf has prepared a special article for *Railway Age* entitled "There's Work to be Done!", which appears elsewhere in this issue. The article outlines the activities of the Division during the last four years, conditions that are to be avoided and charts in a general way the course to be followed in material procurement until the return of peace.

Tribute to Retiring Chairman

In assuming his new duties as chairman of the Division, Mr. Lamneck paid the following tribute to Mr. Krampf, "Our retiring chairman, with the activities of the Division always uppermost in his mind, has during his term of office gone through a period unprecedented in the history of this Division and has carried on under the most trying circumstances and should be congratulated for his untiring efforts."

Continuing, the new chairman evaluated the work of the Division and con-

firmed his intention of carrying out its endeavors to the best of his ability; he said: "When history is written and a final accounting is made, I believe the benefits from these Purchases and Stores meetings will be reflected in the able manner in which the individual railroads discharged their responsibility during this extreme emergency, and when this world is again at peace there will be another epic-making era facing our railroads—that of reconversion to peace-time operation and again where this Division will play a most important part. So there is plenty of work ahead for this Division and with the assistance of our newly-elected vice-chairman, the General Committee and the able, untiring and conscientious efforts of our executive vice-chairman, I will endeavor to act as its chairman and voice their sentiments to the best of my ability."

Presented with this article are the abstracts of 14 subject committee reports that were accepted by the General Committee and released for publication. These reports represent the year's work of the Subject Committees and contain many specific recommendations with respect to procurement and reclamation problems. All of these reports have been released for publication with the understanding that they are subject to the approval of the members of the Purchases and Stores Division and will be submitted to them for vote by letter ballot.



C. H. Murrin, Vice-Chairman



E. J. Lamneck, Chairman



W. J. Farrell, Executive Vice-Chairman

Officers and General Committee, Purchases & Stores Division, A. A. R.

Chairman

E. J. Lamneck, General Purchasing Agent, Pennsylvania

Vice-Chairman

C. H. Murrin, General Storekeeper, Louisville & Nashville

Executive Vice-Chairman

W. J. Farrell, Transportation Building, Washington, D. C.

General Committee

F. S. Austin, Purchasing Agent, New York Central
G. M. Betterton, Purchasing Agent, Southern Pacific
V. N. Dawson, General Storekeeper, Baltimore & Ohio
L. L. King, Purchasing Agent, Illinois Central System
J. H. Lauderdale, General Purchasing Agent, Missouri Pacific Lines
R. D. Long, General Purchasing Agent, Chicago, Burlington & Quincy
A. S. MacDonald, General Storekeeper, Canadian Pacific
J. V. Miller, Manager Stores, Chicago, Milwaukee, St. Paul & Pacific
C. B. Neubauer, Assistant to President, Southern
J. L. Quarles, Superintendent Stores, Chesapeake & Ohio
H. M. Rainie, Purchasing Agent, Boston & Maine
E. G. Roberts, General Storekeeper, Chicago, Rock Island & Pacific
M. E. Towner, General Purchasing Agent, Western Maryland
F. C. Turner, General Storekeeper, Northern Pacific
J. W. Wade, General Storekeeper, Norfolk & Western
H. E. Warren, Manager, Purchases and Stores, Gulf, Mobile & Ohio
G. T. Wickstrom, General Purchasing Agent, Union Pacific
M. M. Williamson, Stores Manager, Lehigh Valley

Report of General Committee

It was necessary, due to emergency war conditions, to postpone the annual meeting for 1945. In view of this and in order that subject committee procedure be continued to the extent practicable, arrangements were made and certain of our committees were selected and requested to pursue their subjects either by meetings or correspondence and submit recommendations found necessary in relation to present conditions.

In view of the postponement of the annual meeting, it was decided by the General Committee that, inasmuch as the present officers and general committee members had served since the 1941 annual meeting, the provisions of the Rules of Order and articles of the Plan of Organization be temporarily waived and the nominating committee be instructed to present its report to the executive vice-chairman for submission to the members of the Division by letter ballot vote. As a result of this vote, the following officers and members of the General Committee were duly elected and will take office at the June, 1945, meeting of the General Committee: E. J. Lamneck, chairman; C. H. Murrin, vice-chairman; H. E. Warren, F. S. Austin, G. T. Wickstrom, C. B. Neubauer, J. W. Wade, E. G. Roberts, for one-year terms; M. E. Towner, G. M. Betterton, R. D. Long, J. L. Quarles, M. M. Williamson, J. V. Miller, for two-year terms and H. M. Rainie, L. L. King, J. H. Lauderdale, A. S. MacDonald, V. N. Dawson, F. C. Turner, for three-year terms.

In addition, the General Committee

also decided to recommend a change in Article 7 of the Plan of Organization which designates that the terms of office of the chairman and vice-chairman are two years. After careful consideration it was the considered opinion of the General Committee that the terms of these officers be reduced to one year. Therefore it was ordered that this change be also submitted to the membership by letter ballot and, as a result, this proposition was approved.

The General Committee also decided that the pending changes in Rule 4 of the Plan of Organization, which relates to increasing the membership of the General Committee from 16 members to 20 members including the chairman and vice-chairman, be presented for letter ballot vote in view of the fact that no annual meeting will be held this year. At the same time, the pending change in Rule 4 of the Rules of Order, which relates to the number of members required to constitute a quorum at meetings of the General Committee, to be changed from nine members to eleven members in view of the increase in membership of the General Committee, was also submitted for letter ballot vote and, as a result, this proposition also was approved.

Emergency Committee

An emergency committee of the General Committee was appointed in 1942, in order that immediate action might be taken on important matters requiring the prompt approval of the General

Committee. The committee consists of five members of the General Committee and several matters have been handled by this committee since its appointment. The committee will be continued for the duration. The personnel of this committee is: E. J. Lamneck, chairman, F. S. Austin, C. B. Neubauer, M. E. Towner, and E. W. Walther.

E. L. Fries, general purchasing agent, Union Pacific, resigned as a member of the General Committee account of illness, and G. T. Wickstrom, general purchasing agent, Union Pacific, was elected to fill the unexpired term.

Special Purchasing Committee

The Special Purchasing Committee has continued to co-operate with the vice-president, Operations and Maintenance Department, and the National War Agencies through the executive vice-chairman's office. The committee also has been active during the year in considering the question of disposal of Government surplus and cross-tie production.

Committee on Committees

The committee on committees, consisting of C. H. Murrin, chairman, J. C. Kirk, and H. E. Warren, was appointed by your chairman soon after the June, 1944, meeting of the General Committee, with instructions to proceed with the selection of active committees to be so designated with relation to the importance of the subject and the applicability of recommendations in relation to the war effort. Its report was submitted at the October meeting and was very complete, indicating a careful study by the committee both as to the selection of subjects and personnel.

Government Surplus Materials

Through the executive vice-chairman's office contacts have been established with Government agencies in Washington, assuring them of the co-operation of the railroads in assisting in the disposal of such material that can be used by railroads.

The members of the Division have been advised currently of the procedure to be followed in contacting the regional offices of the Reconstruction Finance Corporation to obtain detailed information of surplus materials available for disposal in which the railroads may be interested. Mailing list of the chief purchasing officers of the railroads has been furnished to the R. F. C., the Treasury Procurement Division, and the Maritime Commission. These agencies have agreed to send lists of surplus materials to the railroads as issued.

The material requirements of the railroads in relation to priorities has continued to be one of the major activities of the Division during the past year and has been given precedence over the normal activities. The importance of this is obvious, and it is a direct responsibility of this Division to present the railroads' requirements to the O. D. T. and the

W. P. B. The executive vice-chairman's office in Washington has continued in direct contact with Government agencies on all matters relating to materials, as well as soliciting the railroads for information required by these agencies.

The chief purchasing and stores officers have been kept advised currently of orders issued by the Government agencies which directly pertain to materials.

Crossties—The serious situation confronting the railroads on procurement of crossties has been a very important activity of the Division during the past year through investigations by the Forest Products Committee, the Special Purchasing Committee, regional group meetings and the executive vice-chairman's office. Our Forest Products Committee has given the subject constant study and directed special attention to the loss of man-power in the crosstie industry due to the requirements of military service. As a result of their recommendations the O. D. T. arranged meetings in Washington with representatives of the Lumber Division and Transportation Equipment Division of the W. P. B., the W. M. C., the A. A. R. and the chairman of our Forest Products Committee.

As result of these meetings and after a careful study the W. M. C. placed crossties in "Critical Activity" within their list of "Essential Activities" "Group 7", and the production of Finished Lumber products in "Group 24." As indicated in report of the Forest Products Committee the seriousness of the situation is fully realized and will be progressed further with the Government agencies if expected improvement is not evidenced soon.

Bituminous Coal—The difficulty of the railroads in maintaining a sufficient supply of coal continues and presents many vital problems for purchasing officers. The Coal Sub-Committee has continued to follow developments in connection therewith through contacts with the Solid Fuels Administration and the executive vice-chairman's office.

Fuel Oil and Diesel Oil—The members of our committee are continuing to cooperate with the P. A. W. through monthly fuel oil allocation meetings. Considerable benefit has resulted from the procedure to the individual railroads concerned and the committee is to be commended.

The committee also has taken cognizance of the growing importance of Diesel oil to railroad operations and periodic estimates of requirements are obtained from the railroads for the information of the P. A. W.

Regional Group Meetings

Due to abnormal conditions prevailing during recent years, it has not been possible to adhere to our regular procedure of having meetings of our regional group committees. However, some necessary meetings have been held and it is expected that more will be held

in the future, which is of particular importance in view of the postponement of annual meetings. It is desired that necessary meetings be held whenever possible and that joint meetings of the Purchasing and Stores groups be advocated during the present prevailing conditions.

Attention again is directed to the fact that these meetings provide an opportunity for discussion of the many materials problems relating to interpretations of orders issued by Government agencies from time to time, particularly the Limitation and Conservation Orders, Controlled Materials Plan, as well as the exchange of materials, etc., and the General Committee desires to further emphasize the desirability and importance of necessary group meetings.

Simplification and Standardization

By L. E. FIELD, Chairman*

Your committee submits the following report on subjects previously referred to other sections of the A. A. R.:

Class 11—Studs, Boiler, Standard and Cylinder Head—Referred to A. A. R. Division V in 1940. Recommended Practice Sheet F 18-1942 was issued to cover standard and cylinder head studs. Boiler studs have not yet been covered.

Class 18—Brake Pins and Bushings—Referred to A. A. R. Division V. No further developments.

Class 19-23—Piston and Valve Rings and Grooves—Referred to A. A. R. Division V in 1940. Division V recommended Practice Sheet F 13 1942 covers the recommendation of our 1940 report in part, by establishing a recommended ring groove for Sectional Lip Packing.

Class 22—Air Compressor Rings—Referred to A. A. R. Division V. No further developments.

Current Subjects

Class 24—Door Closers—Your committee believes this subject should be held in abeyance for the present.

Class 24-1—Revision of Recommended Standard Material List 24-1 Cotton Duck—This list revised on basis of replies to questionnaire issued in 1941. The proposed list covers untreated duck only, as replies were indefinite as to what kind of treatment was employed on treated duck and number of roads reporting its use was small. The committee recommends that revised list Appendix I be printed and issued in place of present list.

Class 36—Flag Boxes—As nearly as the committee can judge the present recommended flag box is satisfactory.

Class 42—Butt Welded Pipe Fittings—The committee recommends this subject be held up pending further development of use of these fittings.

* Supervisor of Material Standards, Boston & Maine.

Class 42—Copper Tube Brazing Fittings—A fairly complete survey of brazing fittings for locomotives made by one railroad shows the following fittings for use on 14 sizes of copper tubing: 47 brazing sleeves, 24 coupling nuts, 14 brazing connection studs, 11 female pipe thread studs, 18 male pipe thread studs, 6 female pipe thread tail pieces, 14 male pipe thread tail pieces, and 24 flanges. This shows an average of 3.3 brazing sleeves for each size of copper tube. For one size of tubes there are five sizes of brazing sleeves with a corresponding number of coupling nuts and accessory fittings. In some cases the same coupling nut accommodates several sizes of brazing sleeves and pipe threaded tail pieces.

To provide one standard piece of each size and each description of the above fittings would require 98 items as against 150 items shown. Material savings in special tools and increased quantity production are possible by standardization of these fittings.

Except for sheets F 62 to F 66 of the A. A. R. Division V Manual covering coupling nuts, flanges and brazing sleeves for use on injectors and hydrostatic lubricators, there appears to be no recognized standards covering these fittings. As a result locomotive and specialty manufacturers are compelled to develop special fittings for their equipment.

From the above it necessarily follows the railroad must stock a wide variety of these parts for replacement purposes. Furthermore, the quantity purchased or made of any one size is smaller, and therefore more expensive than if one standard size were provided for each size of copper tube.

The difficulty of establishing a standard of this kind due to the large number of parts now in use and the expense and difficulty of a changeover to a standard is recognized. With due consideration to these difficulties, we believe a series of standard fittings should be designed for each size of copper tube recognized as standard in A. A. R. Division VI list 14-3 and Division V Manual, page F 112. We further believe the railroads should insist on their use on new specialties purchased in the future.

The committee recommends that the development of a standard series of fittings be referred to the Mechanical Section of A. A. R. with the understanding that Section VI and this committee will be glad to cooperate in providing information as to present stocks necessary to carry.

Class 42—Brazing Connections for A. A. R. Valves—At the time the A. A. R. valve was designed provisions were made for valves having union outlets for male or female iron pipe connections. The size of these connections corresponds to the A. A. R. union nut and tail piece, but is of composition instead of malleable castings as used in the unions. No provision is made for a brazing sleeve connection for these valves. On some roads many of them are used inside the cab with copper tube connection to the apparatus controlled by the valve.

To satisfy the demand for this type of connection at least four manufacturers of A. A. R. valves have designed a copper

tube brazing connection arranged to roll the tubing over the end of the brazing sleeve to furnish additional security for the connection. It has been found necessary to redesign the beveled seat to accommodate the copper tube joint. The extra over-all length of sleeve due to rolling the copper tube over the end of sleeve necessitates a deeper thread in the coupling nut.

While designs developed by various manufacturers are similar, we have been unable to determine whether they are the same, or to what extent they interchange.

These conditions necessitate the manufacture and stocking of two bodies and two coupling nuts for each size of valve and may well cause delays and errors in furnishing.

We commend that this matter be referred to Division V, Mechanical Section, A. A. R. with the proposal that the A. A. R. valve body for union connection be redesigned in such a manner as to permit use of same body and coupling nut for copper tube and iron pipe connection.

Class 47 — Abrasives and Coated Abrasive Products—The range of kinds and forms of these products reported in replies to the 1941 questionnaire is so wide that it requires further study before a commended standard list can be prepared.

Class 48—Standardization of Catalogs—Because of the wide variety of sizes of catalogs and incident difficulty of filing for ready reference the committee is of the opinion that two sizes, one approximately 8½ in. by 11 in. and the other a half size 5½ in. by 8½ in. would provide for ready filing and reference. We recommend that the subject of catalogs be referred to the American Standards Association to progress through such channels as it may appear possible to develop more uniform catalogs both in size and contents.

Material Specifications

This committee recommends that Purchasing and Stores Departments exercise their influence to minimize the number of material specifications and that recognized commercial specifications, such as those set up by the American Society for Testing Materials, be used rather than setting up other specifications differing only in minor details.

Standard Material Lists

Other lists, such as L 28 a, Electric Lamps, contain numerous items not actually required for railroad use. In cases of this kind it would appear advisable to extract those items commonly used by railroads and include them in our Recommended Standard Material Lists.

Department of Commerce Simplified Practice Recommendations may provide a means of continuing such simplification as has proven beneficial during the war period. We recommend, however, that before individual railroads accept these simplified lists they be thoroughly studied by using before signed acceptances are furnished to determine that they cover actual requirements.

One of the principal reasons for such

varieties of sizes and designs is the lack of readily available information in engineering offices, and it is, therefore, recommended that every possible effort be made to bring about the use of our Standard Material List and those standards as shown in the manuals of other sections of the A. A. R.

Stock Items

Your committee recommends that stock items eliminated from Stores stock as a result of W. P. B. limitation, or other orders should not be reinstated until such time as using departments establish a definite need for such items.

American Standards

Through the joint efforts of the American Society of Mechanical Engineers, the Society of Automotive Engineers, Sub Committee No. 2 on Spring Lock Washers has developed an American Standard covering four series of carbon steel lock washers which have been accepted by the A. S. A., S. A. E., and A. S. T. M. as American Standards. This standard has been published as A. S. A. Bulletin B27.1 1944.

Represented on this committee were lock washer manufacturers, representatives of the above associations, the Army and Navy, Division VI of the A. A. R., and the American Railway Engineering Association.

We recommend that the standards developed by this committee be included as a Recommended Standard Stock List as Sheet 11-11.

Loss and Damage Prevention

By J. C. McCAUGHAN, Chairman*

Due to war-time conditions the loss and damage to freight is increasing rapidly each year, the estimate for the year 1944 being \$60,000,000, or a one-third increase over 1943. This increase may be attributed to difficulties in procuring substantial containers, the use of old containers, and to inexperienced workers. Considerable improvement may be effected through a vigorous campaign directed toward the shippers of materials purchased by the railroads to encourage proper packing and marking.

The reduction of such losses will require the full cooperation of all departments responsible for the handling of shipments of company material. Purchasing and stores departments can assist materially by bringing to the attention of the shippers the numerous causes such as: the use of containers not durable enough to afford sufficient protection for the contents; shipments not marked in the same manner as bills of lading; using old containers without obliterating previous shipping markings; not including packing slips in

containers giving full information as to consignor, also quantity, number of packages and name and address of consignee; shipping small castings loose in cars, instead of wiring the castings together or packing in burlap bags to expedite checking and handling through freight depots as well as to lessen the likelihood of loss in transit.

The stores department alone can do much to overcome damage and shortage by observing the following regulations:

(1) Educating their employees in the prescribed methods of prevention.

(2) Exercising care in loading company material and removing all protruding nails or other obstructions in the car before loading.

(3) Seeing that all materials are properly loaded and braced or blocked in cars.

(4) Exercising proper care in placing fragile materials in cars so that they will not be placed next to materials that may shift and cause damage.

(5) Closely inspecting materials for shipment and refusing to accept any shipments unless they are satisfactorily and properly prepared in accordance with prescribed methods.

(6) Refusing to accept materials for shipment unless each item is properly stencilled, labeled, either with a tag of sufficient strength attached by string, wire, nails or glue.

(7) Insisting that shipments be marked or tagged in the same manner as indicated on bills of lading.

The transportation department can cooperate in reducing losses by:

(1) Properly instructing and supervising trainmen in the safe and careful handling of cars in train yards.

(2) Careful selection of cars to be placed for loading.

(3) Prohibiting the "humping" of merchandise cars.

Losses in connection with return shipments of empty drums and reels to owners are apparently high because of improper markings or loss of shipping tags. One member road has greatly reduced such losses by using specially manufactured liquid paste or glue which it is reported makes the labels weather resistant. The present cost of the glue is approximately \$1.50 per gallon, and the trade name and name of supplier may be obtained from the executive vice-chairman.

Another member road stencils the return address on drums or reels whenever there are no markings to identify the owner; while the original cost may be a little more, it is the committee's opinion that the procedure practically guarantees the containers' return to the owner, and the overall cost will actually be less than that incurred by attaching shipping tags to the bungs, which quite frequently become detached. This suggestion was submitted to 34 different shippers and each approved it.

One road has cars assigned for the handling of company materials between stores some of which have racks installed in each end and in which lightweight materials are placed. The racks have eliminated considerable damage and breakage of tinware items, lantern globes, electric light bulbs and similar materials. De-

* General Storekeeper, Chesapeake & Ohio.

tailed drawings may be obtained from the executive vice-chairman.

On some railroads it is the practice of division superintendents to have freight loss and damage prevention meetings, which are attended by supervisors of the various interested departments including the stores department. It is recommended that our department on the individual railroads be represented at such meetings.

Losses due to damaged or unclaimed freight can be reduced materially by close cooperation between the freight claim department and the stores department because much unclaimed freight can be used to advantage by the railroad. Quite often the damaged freight can be made suitable for use at small cost and credit can be allowed the freight claim department in excess of the price that would be realized from sale to outside concerns.

On some roads it is the practice for a stores department representative to inspect periodically the materials assembled at the point of receipt or at a central salvage warehouse, any of it that can be used without interfering with specifications or standards, or without increasing the inventory unnecessarily or too much, is shipped to the stores department for disposition and for which credit is allowed at the prevailing prices, usually in excess of what can be obtained for the material by auction sale. It is recommended that any roads not following this practice should give consideration to adopting it.

Stationery and Printing

By W. W. CRISWOLD, Chairman*

Annual expenditures made for stationery and printing by Class I railroads, from 1926 to 1943 were as follows:

1926.....\$28,418,710	1935.....\$12,334,000
1927.....26,840,000	1936.....14,011,000
1928.....25,638,000	1937.....16,431,000
1929.....25,567,000	1938.....12,958,000
1930.....20,300,000	1939.....13,915,000
1931.....18,500,000	1940.....14,502,000
1932.....14,400,000	1941.....17,616,000
1933.....11,628,000	1942.....19,727,000
1934.....12,884,000	1943.....20,258,000

Although the war is half over, it will be a long time before stationery and printing problems will be remedied to any appreciable extent. The subject is still paramount and it continues to be the patriotic duty of all members to follow recommendations not only of this report but by a careful study of previous year's reports where not now affected by the W. P. B. or other restrictions.

The shortage of paper is more serious than at any time since war was declared, with additional restrictions requiring reduced inventories of warehouse stocks of paper jobbers and further restrictions on the printers themselves, as evidenced by W. P. B. L-241, dated April 4, 1945, limiting printers' inventories of paper on hand on and after June 30, 1945, to 50 days' supply.

We believe that suppliers have cooperated to the fullest extent possible; and while

* Stationer, Chicago, Rock Island & Pacific.

acute shortages have not been great in number, considerable difficulty has obtained in handling many items in order to be assured of sufficient supply to satisfy actual essential requirements.

We should, therefore, cooperate for maximum effort in conservation, in purchasing, distribution and use of all supplies; extending full cooperation to printers and others to help them comply with W. P. B. restrictions and to other limitations.

Standardization of Sizes

We again repeat importance for further consideration by member roads not now using size 7½ in. by 9½ in. for plain papers and printed forms not only for substantial monetary savings but also for the salutary effect on consumption of paper pulp.

A saving of 23 per cent is possible by reducing from 8½ in. by 11 in. to 7½ in. by 9½ in. for plain paper and proportionate savings for printed letterheads, second sheets, mimeograph paper, carbon paper and other items including smaller envelopes.

Half-size sheets 4¾ in. by 7½ in. also should be more generally used for short communications, second sheets, scratch pads and unprinted telegram blanks.

Interline Waybills

A. A. R. Accounting Division mandatory specifications, effective October 1, 1944, provide that paper used for printing waybills shall be not less than 75 per cent sulphite, not less than 25 lb. to a ream of 500 sheets, size 24 in. by 36 in. (manufacturers' standard basis of size), and not less than 15 lb. to the sq. in. breaking strength under the Mullen test. When it is impossible to secure paper stock to comply with these specifications, an alternative grade as near as possible to these specifications may be used.

Some printers are still furnishing paper stock that complies with basic specifications and your committee recommends that where difficulty obtains in securing 75 per cent sulphite paper that alternate specifications shown in 1944 committee report as quoted below be followed to the fullest extent wherever possible:

"Use paper not less than 50 per cent sulphite, not less than 32 lb. to the ream of 500 sheets, size 24 in. by 36 in. (equivalent 17 in. by 22 in.—14 lb.) high finish and not less than 15 lb. to the sq. in. breaking strength under Mullen test."

Unit Bill of Lading

Your attention is called to the A. A. R. booklet dated September, 1944, covering specifications and recommendation regarding use of the Unit Bill of Lading as submitted to member roads by the executive vice-chairman on October 2, 1944. (Accounting Division Form AD-129.) Some roads have been using combination bill of lading and waybill forms at some of their larger stations; other roads have not approved its trial and others are making further study of its use.

Considerable promotional work is necessary to enlist fullest cooperation of shippers

to change their present practice to the preparation of these forms to aid the railroads in moving freight more expeditiously.

Standardization of Quality

We believe member lines have been conscientious and will continue to follow committee recommendations made from year to year for more general use of ground wood papers, such as railroad Manilas and hard sized newsprint in place of white sulphite bonds. This practice has contributed in a substantial way to reduced consumption of sulphite paper so urgently requested as well as definitely restricted by W. P. B. limitation orders.

Continued and more active efforts are recommended on the part of forms or standardization committees on individual railroads for reviewing all printed forms and statements, to determine essentiality and arrange discontinuance of unnecessary items, to effect consolidation, to eliminate waste space in forms, minimize number of copies, to adopt minimum size, weight and grade of paper and careful study of actual necessity before approving new items.

Tariffs

The cost of printing tariffs for the railroads in the United States continues to be one of the largest single items of expense for printing. Under the circumstances, every possible means to help reduce this expenditure should be handled by member lines. Careful study of this subject and the more general adoption of the following recommendations will effect substantial monetary and labor savings:

Securing prices, and awarding contracts, should be handled by purchasing departments and full cooperation should be given freight and passenger departments in distribution of the work for the most economical handling. Care should be taken that contracts cover every item of expense that enters into the billing of tariffs, so that no difficulty will obtain in properly checking invoices to avoid possible overcharge when all items are not completely covered.

Specifications as to size, grade of paper, size and style of type, binding margins and distribution are prescribed by the I. C. C. and must be strictly adhered to.

The production of tariffs by the planograph method has proven successful and member lines and tariff publishing bureaus should continue to have a good portion, if not all of their work, handled by this method for substantial savings. Many railroads are making additional savings by the production of cancellation notices, division sheets and tariffs in their freight and passenger traffic departments. Care should be taken to prepare issues carefully so that good clean legible copies will be furnished that will be acceptable to the I. C. C.

Typewriters with special type and other mechanical devices are now in use for preparing good legible copy, and maximum amount of items per page, comparable with printed effort.

With the full cooperation of purchasing and freight and passenger traffic departments it should be possible to minimize the expense of handling tariffs.

The traffic departments should continue their efforts toward consistently checking shipper's mailing lists and minimizing distribution.

This is another item where the annual expense is high compared with cost of other printed items. It is felt, however, that economy in cost as well as paper stock savings are being made through the co-operation of passenger associations and the W. P. B. and passenger and purchasing departments towards reduction in the sizes of coupon forms, etc., and reduction in the weight of paper stocks consistent with efficient use. Further study is recommended for possible still greater economic results.

Mechanical Devices

Although restrictions have been modified and some new typewriters, adding machines, dictaphones and other office mechanical appliances can be bought, the man-power shortage is still acute as far as repair work is concerned. It is important that all mechanical devices should be given the best of care, following manufacturers' recommendations to attain maximum efficiency.

Waste Paper

Salvaging waste paper is still No. 1 of our "must" salvage items. Every possible effort should be made to salvage every pound of waste paper. We offer the following suggestions for productive results: (a) liquidate all old records in storage consistent with I. C. C. regulations, (b) clear filing cabinets of obsolete correspondence, (c) handle general office waste basket accumulations regularly and, (d) at larger points waste paper can be baled or sacked and stored (without fire hazard) for sale locally, or handled through the nearest division storekeeper; if not possible to sell small accumulations locally, then they should be given to local charitable organizations.

Railroads operating under trustees should do all possible to secure court approval for early disposition of records that are now available for destruction under present I. C. C. regulations.

Micro-Filming

Although present conditions may render micro-filming of essential records impracticable this subject deserves intensive study for two principal reasons: safekeeping and conservation of space.

One road has used micro-film to record about 17,000,000 sheets at general offices and a caboose and business car have been equipped for filming records for division offices and local stations. Another railway has handled approximately 660,000 exposures.

Although I. C. C. mandatory regulations require permanent retention of bond records, general journals and ledgers, payrolls, capital stock records, contracts and many other items, yet the I. C. C. has given some member roads permission to destroy the originals of records that have been filmed and courts are accepting reproductions from films in lieu of original records. We, therefore, consider this subject worthwhile for intensive study and general use.

Forest Products

By W. A. SUMMERHAYS, Chairman*

W. P. B. Order L-335 was issued on March 22, 1944, and became effective August 1, 1944. Members of this committee cooperated with the Transportation Equipment Division of W. P. B. in processing the first series of Form WPB-3640 by explaining railroad practice, especially with regard to the time required for seasoning lumber before its use in car repairs or prior to treatment with preservatives. W. P. B. representatives were cooperative in this matter and readily granted additional quantities of lumber to railroads which reported that their applications had been unduly reduced.

Lumber production has fallen off considerably because of shortage of labor, trucks, tires, and machinery repair parts, while the military demand for lumber and lumber products has steadily increased. There appears to be no prospect that the supply of lumber for railroad use will become easier for many months. It is necessary that future requirements be held as low as possible and that recommendations of our Conservation Committee 3-A regarding the careful use of lumber be followed closely.

Eastern Crossties

The 1944 report of this committee called attention to the critical nature of crosstie production and the subject was discussed fully at our January committee meeting. At that time the War Manpower Commission had just issued a list of essential activities for use by draft boards. Under Group 7, listing the essential and the critical activities connected with forestry and forest industries, no mention was made of crosstie production. This committee called attention to the loss of manpower in the crosstie industry due to the requirements for military service. It was also reported by various members that many tie mills had shut down because operations were no longer profitable. Rather than operate with reduced manpower, the tie-mill operator can go into other industries and make a better living. This situation was called to the attention of our executive vice-chairman by this committee, with the request that the matter be followed with the W. M. C. and that the tie producers and treating plant operators be encouraged in their efforts to increase production.

On February 6, 1945, the O. D. T. arranged a meeting in Washington to further consider the crosstie situation. Present at this meeting were representatives from the Lumber Division and the Transportation Equipment Division of W. P. B., the A. A. R., the W. M. C., and the chairman of this committee.

Under date of February 17, 1945, the W. M. C. informed the O. D. T. that: "The production of railroad crossties, including the cutting, sawing, milling and transportation from the cutting areas to concentration points, is a critical activity within the W. M. C. list of Essential Activities—Group 7." This communication also

* Assistant to Vice-President, Illinois Central System.

stated: "As to questions concerning the selective service status of the registrant, it is the responsibility of the local board to decide whether the specific establishment and the registrant's employment therein were in support of the war effort."

The latest revision of W. M. C. critical and essential activities, the items underlined being critical and all others being essential, are as follows:

Group 7. *Forestry, logging, lumbering, and forest-industries.* Timber tracts and logging camps, cutting of pulpwood, wood for tanning extract, charcoal, sawmills, veneer, cooperage-stock, planing and plywood mills, raising of tung oil trees; fire prevention, pest control; forest nurseries and reforestation services; gathering of gums and barks for the manufacture of naval stores and medicinal purposes. This grouping has been further revised to include concentration yards.

Group 24. *Production of finished lumber products.* Cork products such as life preservers; storage battery boxes; insulating material, cars; matches; crutches; caskets; wood preservation activities buildings, portable and prefabricated; wood base hardwood. Wooden parts of aircraft, ships, and other military equipment. Manufacture of wooden flooring.

As a further result of the February meeting, the O. D. T. arranged for questionnaires to be sent to members of the crosstie industry, wood treating plants, and railroads, to determine the extent to which crosstie production had dropped off, and the reasons.

The General Committee of the P. & S. Division, at a meeting held during March, 1945, reviewed the data accumulated up to that time on crosstie shortages, and again referred the subject to this committee for further consideration by the Special Purchasing Committee. At the request of the General Committee, the chairman of this committee prepared for the executive vice-chairman a letter setting forth the causes of steadily decreasing crosstie production, and suggested remedies in line with understanding reached by this committee at their January meeting.

At a meeting of the Special Purchasing Committee at Chicago during April, 1945, crosstie shortages were discussed. A further report on the subject was given to this committee, at their request, by Messrs. Campbell, Moore, and Summerhays of this committee, which was referred by them to the executive vice-chairman for further handling. The shortage in production of crossties continues with little prospect of early improvement. The supply of crossties seasoning at treating plants for use in early months of 1946 is much below normal for midyear.

Western Crossties

Since Western crossties are produced almost entirely in sawmills which also produce switch ties and lumber and are priced on a board feet basis, the crosstie supply is governed by the demand for lumber. Since there is very little prospect of a lessening demand for lumber, the outlook for Western crossties is not much better than for those produced in the Eastern area.

Highway Motor Vehicles

By C. R. PAINTER, Chairman*

It is the consensus of opinion that there is very little, if any, difference between purchasing and storekeeping for highway operation and for rail operation. We urge further study, by railroads which operate highway subsidiaries, as to the advisability of the purchasing and stores department's supervising, if not actually handling, the purchasing and storekeeping for highway subsidiaries, because there are many items of materials and supplies which are common to both operations and which can be purchased to better advantage due to the purchasing power of the railroads and the more favorable contracts which they are able to negotiate.

Scrap, Reclamation, Inventories

The disposal of scrap should also be supervised by the purchasing departments of the railroads, due to the broad scope of contacts which the railroads have with scrap purchasers.

While the matter of reclamation has been referred to in previous committee reports, it is the recommendation of your committee that member roads continue to give this matter very serious consideration, particularly during the war where reclamation of used parts to the fullest extent possible often is necessary to avoid holding motor coaches and trucks out of service because of the shortage of any critical parts.

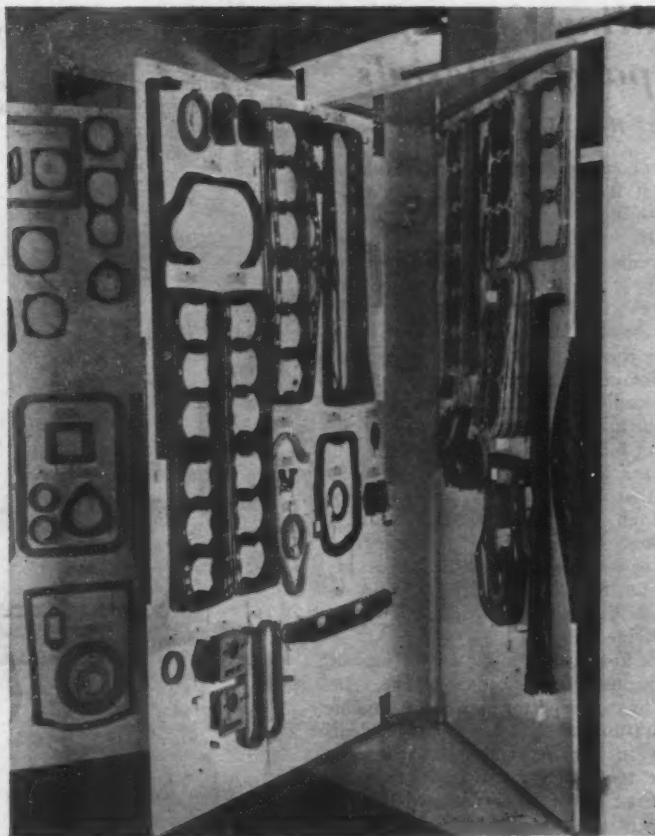
While it is a well known fact that under all conditions close supervision of inventories must be exercised to avoid obsolescence, it is doubly important today not only to avoid obsolescence but also to see that materials, particularly automotive repair parts, are carried in sufficient quantities to compensate for the length of time required to obtain deliveries and to keep vehicles rolling and to avoid their being held out of service due to lack of materials.

One of our members has suggested this closer check of inventories with a view to locating, if possible, any surplus items that might be passed back to the manufacturer or distributor to assist some other operator who otherwise may have difficulty securing such material. Special attention is called to the fact that many items of repair parts are so critical that they can be obtained only by forwarding to the manufacturer "vehicle-down" reports for each coach or truck actually out of service because of the lack of such items.

Storage and Alignment

Your committee suggests the use of a cabinet, such as that which is illustrated, in which to store copper, metal and other gaskets which are easily damaged. Such a cabinet will hold damage to a minimum and the storage area is considerably condensed. One road has adopted a method of storing automotive fan belts in an overhead position in the storeroom by inserting a

* General Purchasing Agent, New York, New Haven & Hartford.



A Cabinet Specially Designed for the Storage of Copper, Metal and Other Gaskets That May Be Easily Damaged

half-inch pipe at a slight angle in a piece of 4 in. by 4 in. wooden post and suspending the belts over the pipe. This utilizes overhead space which normally is wasted and stores the belts where they can be easily seen and conveniently issued.

Many roads use rotobins for storing small supplies, such as cotter keys, washers, cap screws, nuts, bolts, etc.

Gasoline, Oil and Tires

Railroad highway operators were asked by your committee as to what accounting disposition is made of the difference between inventory and meter readings of gasoline and oil each month. Seven operators replied that these differences are charged to operating accounts and three operators pro rate to different vehicles on the basis of mileage each month. Your committee is of the opinion that this should be optional with each operator.

One special problem now facing highway operators who have tire mileage contracts is the inability of the tire companies to furnish full requirements of tires, making it necessary in many cases for the operator to purchase tires in the open market. Up to this time the mileage contractors have not worked out any standard method of adjustment under which these tires can be placed under the mileage contract. This places an additional burden upon the operator because of the necessity of keeping separate records of company owned tires and tires owned by the mileage contractor. It is the recommendation of your committee

that some method of adjustment be worked out by the individual operator with his mileage contractor.

Bills of Material, Requisitions

Railroad highway operators were also asked if their mechanical departments furnished the stores department with bills of material for unit overhauls in sufficient time to obtain the material required. The replies indicate that generally this is not being done. However, your committee is of the opinion that bills of material for overhauling programs should be furnished to the stores department 30 to 60 days in advance to give them an opportunity of obtaining the material.

Upon investigation we found that mechanical departments in general are not including catalog numbers in the description of automotive parts where requisitions are presented to stores departments. Your committee is of the opinion that the showing of catalog reference by the mechanical department cannot be made compulsory because it does not have sufficient knowledge of catalog numbers to permit furnishing this information completely and correctly.

Your committee believes it would be advantageous for highway operators to have a representative to act as a "go-between" between mechanical and stores departments, whose duty it would be to make the requisitions or at least check and approve them to make sure that full and proper descriptions are shown so that the requisitions can be filled properly and expeditiously.

Handling Cars of Company Materials

By J. L. IRISH, Chairman*

The pronounced shortage of cars still exists and it is believed that if suggestions such as outlined in this report are followed vigorously, much will be accomplished toward reducing time of cars under load and non-revenue ton-miles. The support of all members is earnestly solicited to attain results necessary to reach the objective by observing the following suggestions:

1. Maintain records of cars received, on hand unloading spurs, in yards and released, starting with receipt of waybill for purpose of following up, avoiding delays in setting cars for unloading; also follow up to see that released cars are promptly switched out.

2. Unload all cars promptly. Every car should be considered a potential necessity for transporting war materials. Every effort should be made to unload car the same day it is received.

3. Cars to be reloaded or set for loading should be inspected prior to loading. Inspection by car inspector may avoid possible delay in transferring loads, and accidents resulting in damage and delay to many cars due to loading car with floor worn thin and not safe for concentrated load.

4. Supervisors should be familiar with A. A. R. loading rules. Proper loading and blocking eliminate delays on repair track adjusting or blocking loads. The fact that the car is not interchanged does not lessen the necessity for properly loading and securing the load.

5. Load cars to capacity. Loading schedules should be reviewed periodically to take advantage of changed conditions which may result in eliminating a regularly scheduled car.

6. Use of classes of cars not in constant commercial use, by reason of seasonal demand, to fullest extent. Stock cars can be used for certain loading when not in demand and while in some cases cooping may be necessary it will be justified when their use will release higher grade cars for commercial purposes.

7. Avoid shipping material to jobs in advance of the time it is needed. Shipments should be controlled so that unloading cars will not be delayed.

8. Control shipping dates on carload shipments from dealers. Carload lots or large items to be shipped direct to jobs should be dated to avoid delay in unloading. Shipments of oils should be regulated so contents of car can be unloaded promptly on receipt of car. Tank cars should not be used for storage purposes. Engine and bedding sand should be scheduled for shipment only as equipment is available to unload it.

9. Avoid ordering cars for loading before they are actually needed. Often a class of car not in heavy demand can be furnished if the transportation department is informed of the commodity to be loaded and the destination.

10. Continued efforts should be made to

utilize mechanized equipment to fullest extent practicable, to speed up loading and unloading of cars.

11. Motor trucks should be used in congested territories for pickup and delivery of l. c. l. shipments between stores and freight houses.

12. Keep in constant touch with the departments responsible for distribution of cars. It is necessary to keep posted on current requirements to avoid loading classes of equipment badly needed for commercial loading and to give preference to such cars in unloading.

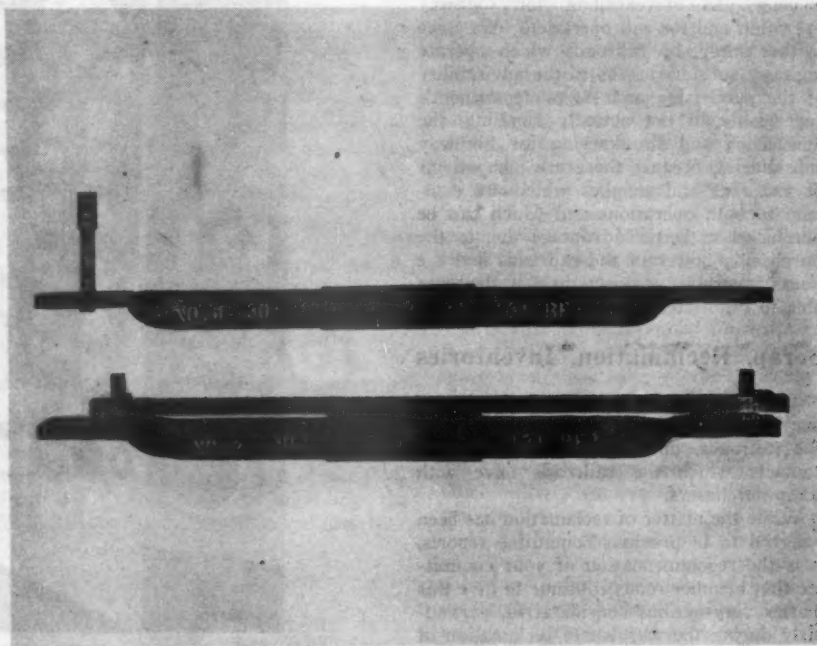


Fig. 1—(Upper)—Flat Limit-of-Wear, Plug Type Gauge Used in Measuring Wear in Bolt Holes of Switch Rod. (Lower)—Gage Used to Check Distance Between Holes



Fig. 2—The Man in the Foreground Is Welding Metal to Enlarged Holes in the Course of Reclaiming Connecting Rods for Switch Stands

* General Storekeeper, Union Pacific.

General Reclamation

By W. P. STEWART, Chairman*

In 1942, as a result of the studies of this committee [A general committee comprising representatives of Mechanical, Engineering and Purchasing and Stores divisions of the A. A. R.—Ed.] a manual was published by the A. A. R. listing by class numbers many items of material and a brief description of how they could be reclaimed. In preparing the manual there were many items to consider; the new items, however, get less each year, and only by keeping this subject constantly before our members can we obtain the maximum returns for the railroads.

Following are the new items of reclamation that have been submitted by the members this year for inclusion in the Victory Reclamation Manual:

Item No. 40—Chisels, Track—Class No. 1-C—Operation: When finished grinding cutting edge or face of the ball, polish on grinding machine using fine grade of emery cloth.

Item No. 41—Mauls, spike—Class No. 1-C—Operation: When finished grinding ball face, polish on grinding machine, using fine grade of emery paper.

Item No. 4—Scrap superheater tubes—Class No. 13—Operation: Rattled and used for signal masts.

Lumber Conservation

The lumber situation grows more serious each year and we recommend that this item be given the very closest attention possible. The committee has made reports on the methods of reclaiming lumber and most railroads have some set way to handle as it accumulates, but the main thing is to see that no employee burns good lumber or sells it as scrap wood. If care is used, a larger per cent of all old lumber can be saved. The following tabulation shows the amount of lumber that one railroad saved from condemned cars alone:

Period	Board Feet
1944 March	11795
April	12042
May	10500
June	25000
July	8000
August	15600
September	18000
October	34000
November	45000
December	90000
1945 January	70000
February	80600
March	95000

Switch Rods

The following methods of reclaiming connection rods for switch stands were submitted to the committee:

(a) Bolt holes in the switch stand connecting rod are gaged with a flat limit-of-wear plug gage shown in Fig. 1. If the holes are worn less than $\frac{1}{32}$ in. in any direction the rods are classified as "Fit" and are re-used. If the holes are revolved slowly by hand and a thin layer of steel is welded in by an oxy-acetylene torch. The welded

* Supervisor, Scrap & Reclamation; Illinois Central System.

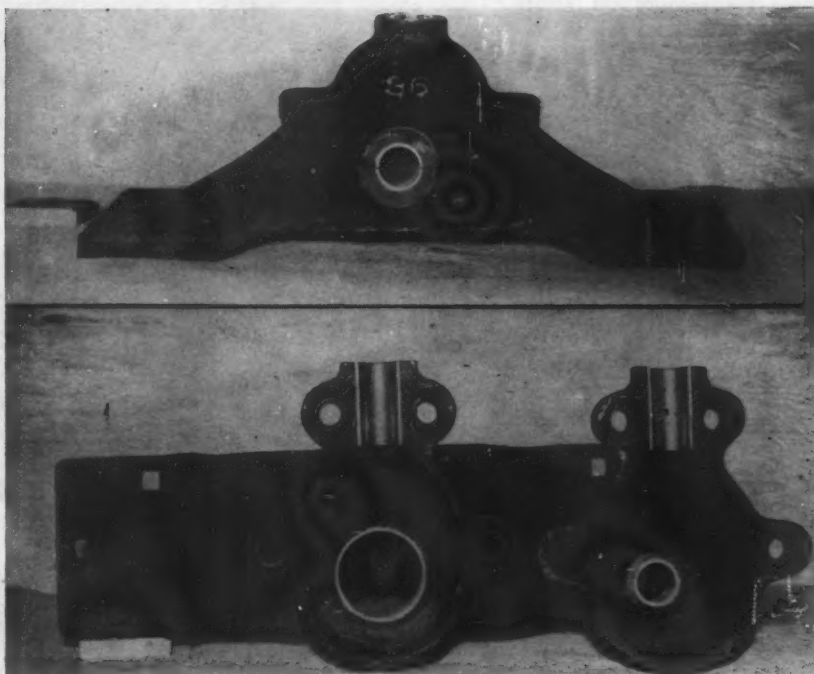


Fig. 3—Bushings Applied to the Housing of Reclaimed Switch Stands

holes are reamed to a standard size with a taper bridge reamer in a drill press.

(b) Bolt holes in the switch rods are gaged with a flat limit-of-wear plug gage shown in the upper rod in Fig. 1. If the holes in a No. 1 rod are worn less than $\frac{1}{32}$ in. in any direction, the rod is classified as "fit." More wear in the holes in the other rods will not do as much harm and, therefore, rods having holes worn less than $\frac{1}{16}$ in. are classified as "fit." The distance between the holes is checked with the gage shown in the lower part of Fig. 1. If the

holes in the rods are worn too much or the hole centers are not correct, the holes are built up by welding in a positioner shown in Fig. 2 and reamed in a jig to standard size with the correct distance between the holes.

Switch Stands

Your committee has considered the repair of ground throw switch stands thoroughly and recommends either of two methods: (a) bushing the worn parts of the stands

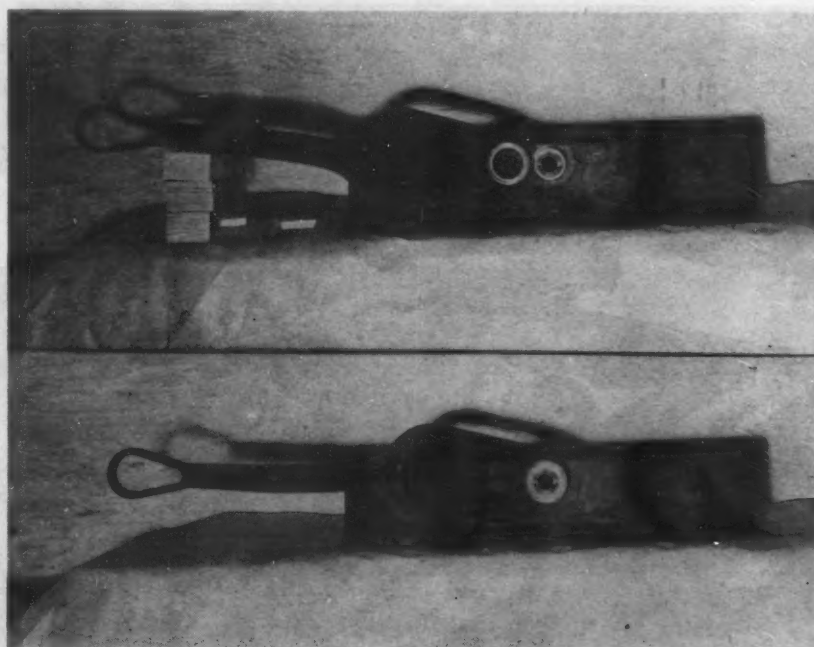


Fig. 4—Even Throwing Levers of Ground-Throw Switch Stand May Be Reclaimed by the Proper Application of Bushings

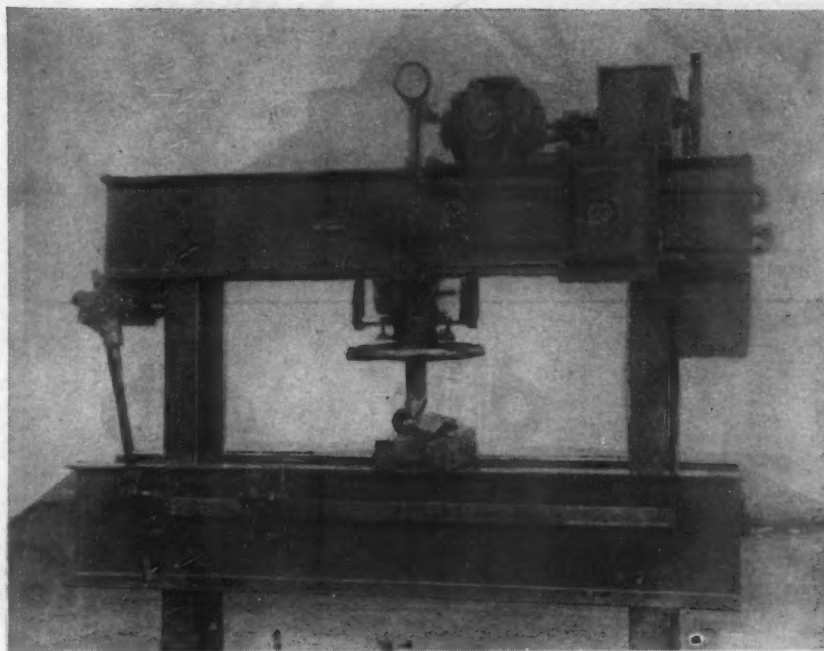


Fig. 5—A Machine Used for Closing and Reclaiming Rail Anchors. Reclaimed Anchors Are Recommended for Relayer Rail

with a ground and finished bushing, and by careful machine fit, bring the worn parts to the actual new dimensions of the castings, apply a new target rod and have the same fit as when new; and, (b) by welding. The committee believes that both of these methods have merit, and Figs. 3 and 4 show how the stands look after they have been repaired by using bushings. All reclamation shops have the necessary machinery to make these repairs by either method. This class of work should never be done in sec-

tion houses or in small shops where proper equipment to do the work or trained supervision and skilled men are not available. It is not a question of how cheaply this work can be done but how well it can be done at a profit.

Rail Anchors

The committee has found that closing rail anchors is a very satisfactory operation; they must be closed slowly with a

hydraulic press to avoid sudden shock. It is recommended the reclaimed anchors be used on relaying rail, as the flange is usually rusted and thinner than on new rail and the anchors can be closed very easily to fit. Before closing, the anchors should be kept in a warm place and in extreme cold they should be placed in a hot water bath because this procedure will not change the carbon content but other methods may. Fig. 5 shows one method of closing rail anchors.

Center Plates

One railroad advises that it is reclaiming broken or cracked center plates by cutting out center portions and welding them to underframes instead of attempting to recondition old castings by welding cracks, etc. Fig. 6 shows how this work is done.

Steel Strapping

Your committee has found that the reclamation or recovery of steel strapping, such as that which is used for crating, is very profitable, and recommends that wherever possible it be salvaged at the point of receipt or use. The use of some device to keep strapping in bundles or coils makes its re-use easier and employees will use it to better advantage if it is kept in this manner. A device used by one road to coil strapping steel is shown in Fig. 7.

Oil Lantern Frames

Old frames of hand oil lanterns usually reach reclamation shops in rusted, bent and twisted condition. They can be cleaned with a circular steel brush operated by a small grinding machine and, instead of retinning, the frames can be sprayed with a good grade of paint. Your committee recommends the use of heat-resisting paint for a neater appearance and to insure better care on the part of employees.

Journal Box Lids

This committee recommends that journal box lids of pressed steel be repaired, for this may be done at a good profit. This operation consists of renewing the end of the hinge on each side of the lid and welding cracks in the body of the lid. Fig. 12 shows a lid in position for welding.

Reclamation of Rail

Several years ago a member road decided to install a yard for reconditioning second-hand rail. After considerable study the use of the radiograph oxygen-acetylene method of cutting rather than the installation of a rail saw was decided upon, not only from the standpoint of initial cost and economy in operation but also because studies developed that the heat penetration of rail cut with the radiograph was less than that cut with the saw.

The rail yard has been in operation for several years with very pleasing results. The following is a brief description of the various machines in use in the yard:



Fig. 6—The Reclamation of Broken or Cracked Center Plates by Cutting Out the Central Portions and Welding Them to Underframes



Fig. 7—A Device to Coil Strapping Steel

Cutting Machines—Four radiographs complete with radius rod, center point, tachometer, torch adjusting arm and torch (No. 2 tip) for cutting rail and mounted on tracks. (Note: radiograph arranged so that two machines cut upward, and two cut downward.)

Rail Press—Hydraulic rod press, 100-ton capacity, 8 in. ram with 18 in. stroke, fitted with steel engine bumper beam as base.

Pump—Pumping unit consisting of one high and one low pressure pump mounted on tank; to operate press at down speed of 150 in. per minute a press speed of 16.3 in. per minute at 63 tons, with a return speed of 104 in. per minute, with operating foot pedal.

Motor— $7\frac{1}{2}$ h. p., 440-volt, a. c., 3-phase, 60-cycle, 1,200 r. p. m., standard squirrel cage motor without base or pulley but with standard shaft extensions on both ends, sleeve bearings.

Starter— $7\frac{1}{2}$ h. p. weather-proof starter with disconnect switch with separate push button, 440 volt a. c., 3-phase, 60-cycle.

Drill—2-spindle single and hydraulic drilling machine with adjustable center for $5\frac{1}{2}$ in. and 6 in. drilling.

Motor— $7\frac{1}{2}$ h. p., 440-volt a. c., 3-phase, 60-cycle, 1,200 r. p. m.

Conveyors—Type 2F-57-B, $3\frac{3}{8}$ in. by 12 in., 4 ft.-S, A-1184-viz. 2 frame rails of 7 in. by $1\frac{1}{2}$ in. steel angles, rollers $3\frac{3}{8}$ in. diameter by 12 in. long, of $\frac{9}{16}$ in. wall, 0.40 carbon, seamless steel tubing, spaced 4 ft. centers. Type 57-B ball bearings labyrinth sealed with steel and felt washers, 13



Fig. 8—An Efficient Rail Reclamation Yard That Has Been in Operation for Several Years

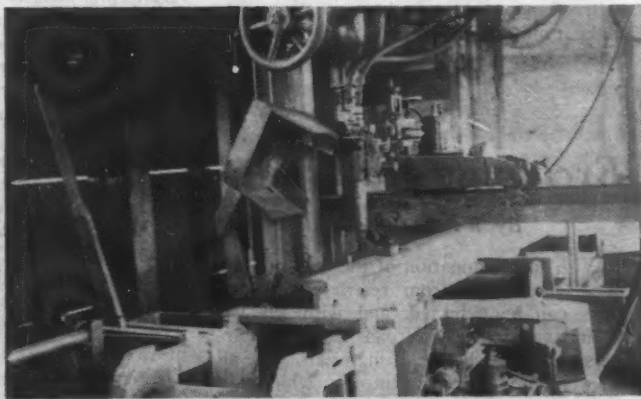


Fig. 10—Oxyacetylene Cutting Machine Used for Reclaiming Rail

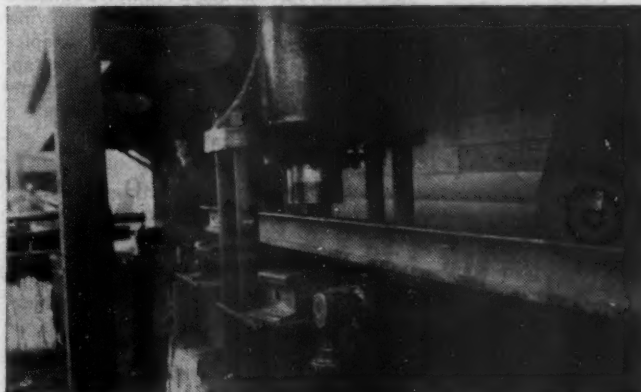


Fig. 9—100-ton Hydraulic Press Used in Straightening Reclaimed Rails

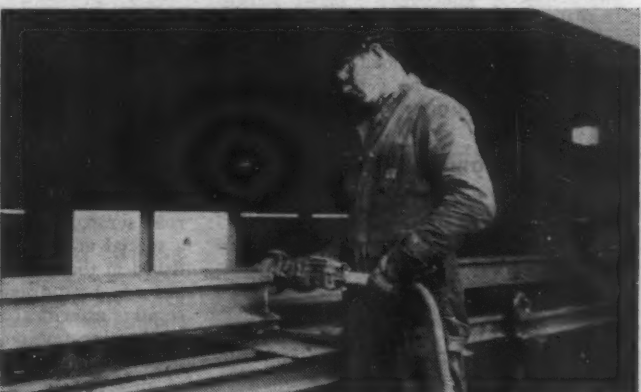


Fig. 11—Portable Hand Grinders Are Used to Finish Rail Ends After Torch-Cutting

hardened steel balls, $\frac{3}{8}$ in. diameter, $1\frac{1}{16}$ in. hexagon thru axle with A-1184, $\frac{1}{8}$ in. pipe thread Alemite Industrial button head grease fittings at both ends. Top of rollers set at $1\frac{3}{8}$ in. below top of frame rails.

Rail Racks—Scrap rail set on scrap and second-hand signal pipe carrier foundations. Rail skids made of scrap and second-hand rail set on concrete foundations of varying heights.

There are 286 lin. ft. of conveyors supported on concrete foundations, four air hoists for handling rail, and the yard is flood-lighted for night operation. Portable hand grinders are used to mill the rail ends after cutting.

Figs. 8 to 11, inclusive, illustrate the layout of the yard, and further detailed information as to cost of cutting rail and any of the other operations can be obtained from the executive vice-chairman of the P. & S. Division.

Cooperation

The splendid cooperation of using departments and all employees has enabled us to reclaim vital materials needed for the operation of the railroads and has been of immense importance in our war effort by reducing the demands for new materials at a time when factories and mills were being taxed to the limit of their production by the requirements of our armed forces. Reclamation of materials has therefore helped to hasten the day of victory, but even with the return of peace reclamation will ever continue to play an important part in railroad operation as higher operating costs make it more and more imperative to reduce waste.

Exchange Materials

By W. A. CLEM, Chairman*

With the termination of the war in Europe, some relief from restrictive regulations can be expected, and with supplies again available all railroads will be interested in the exchange of materials. We all have items in our inventories which are no longer active, and these should be inventoried and offered to railroads in your region, if in usable condition, and if the material is not peculiar to your own road. In many cases that which is obsolete with one road is obsolete with all, and an inventory for exchange should exclude items definitely known to be generally obsolete and in surplus on most roads.

Recommendations

It is recommended that each railroad prepare such a list, keeping classes separate, as of July 1, 1945, circulate among its connecting lines, and if not moved in 30 days, extend the circulation to its regional group. If still not moved, regroup the items and offer to suppliers or manufacturer's furnishing such items. Many suppliers at this time are overloaded with orders. Even if they

* Purchasing Agent, Reading.

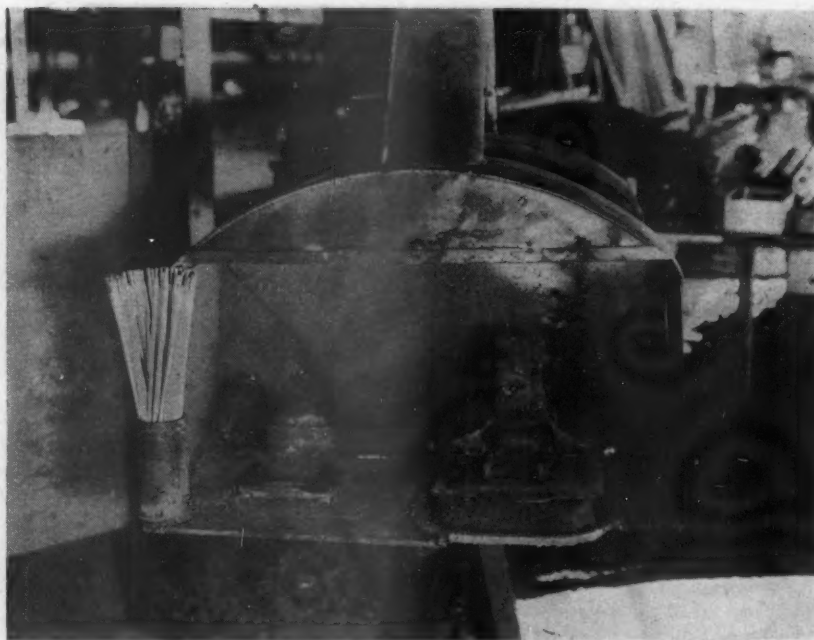


Fig. 12—A Journal Box Lid in Position for Welding

are unable to accept return of the materials, they may be able to suggest someone needing the surplus items.

In the post-war period Government agencies will have considerable surplus material, and we should clean our own shelves of surplus and inactive items prior to that time when inventories again will become a paramount interest to our departments.

Lumber is a particularly critical item, and will probably remain so during all of 1945. Check your stock piles; do not let lumber deteriorate when possibly your neighboring road is badly in need of the kind and size you have in surplus. This also applies to usable grain doors and cross-ties. Any usable crossties that are not required, should be offered to other railroads, in view of the present acute situation. In the interest of conservation these items should have your particular attention immediately.

Report on Scrap

By J. J. COLLINS, Chairman*

The importance of railroad scrap has been emphasized time and again during the past few years and continues to be looked upon as a desirable source by the steel industry and a prolific source by Government agencies. As evidence of the importance that the W. P. B. attaches to railroad scrap, it need but be remembered that a special unit for railroad scrap was established in their Salvage Division. This unit has now been discontinued but the need for scrap is as critical as ever and there should be no relaxation on the part of any railroad in accumulating and promptly disposing of all scrap.

Through the recommendations of this

* Supervisor Scrap & Reclamation, Erie.

committee, the railroads have derived much benefit in the handling of their scrap problems. Constructive suggestions have been advanced and it is the aim of your committee to continue its research of all matters pertaining to the handling, sorting, and sale of scrap materials, with the object of acquainting our members with new methods and developments which will be of value and assistance to all railroads.

Owing to prevailing conditions during the past year it has not been possible for your committee to follow the established procedure of detailed "on-the-ground" inspection of railroad scrap plants; but through correspondence we have endeavored to present valuable information. We strongly urge members of the Division to acquaint the committee with all matters of importance related to their individual scrap operations. It is not always possible to present recommendations that may be applicable in all markets, but the importance of scrap disposal to railroad operation presents a responsibility to all employees in the purchasing and stores department.

The Conservation and Salvage Division of the W. P. B. has again requested railroad salvage directors to assist with supplying more heavy melting steel scrap to complement present mill supplies of light scrap, and this committee suggests that all member roads continue their activities along the lines followed before.

Contacts with the O. P. A.

During the year representatives of the O. P. A. requested our advice and suggestions with regard to various individual grades of scrap, and the proper classification of the scrap generally. Although we have not discussed these matters with them as a committee representing the A. A. R. we have, whenever requested to do so by the O. P. A., delegated certain representatives from various roads to meet with them

and give all the assistance possible in their work.

A. A. R. Scrap Classification

Exhibit A, "Ferrous and Non-Ferrous Scrap Classification," includes some minor changes in the wording of several classes. Your committee directs attention to the fact that as our classification has been set up to be permanent and not specifically for the duration of the war, prevailing conditions make it necessary that we deviate from it to some extent for the duration as follows:

(a) Allow claims for shortages of 500 lb. or more, instead of 1,000 lb. or more.

(b) To conform with O. P. A. classification for Class 11-A; prepare and sell this item in sizes not over 18 in. wide and 4 ft. long.

(c) Disregard Class 24-A, and prepare scrap to Class 24.

(d) Make settlements on the basis of destination weights.

Your attention is respectfully directed to the following recommendation that was made by your committee and adopted at the 1935 annual meeting:

"Classification Numbers—That A. A. R. classification numbers be universally adopted and used; that is where it is not necessary for a railroad to have all classes, the classes used should be designated by the corresponding basic A. A. R. classification number.

"Special Classifications—That in cases where railroads have found it necessary to include additional classes not covered by our present classification, the numbers for such classes to be assigned, with description, by the executive vice-chairman of the Division."

Scrap Arbitration—No cases for arbitration were presented for consideration during the past year. We recommend that the submission of such cases be made whenever possible.

Preparation of Scrap—Small quantities of large size steel wheels produced by some roads can be cut by gas torches to 36-in. shortest dimension and included in Class 42 to take advantage of price.

Handling at Point of Origin—Handling of scrap at the point of origin was covered in a general manner in our report for 1944. This year because conditions would not permit "on-the-ground" studies of railroad operations, a survey made of member roads by correspondence developed that the majority are now following procedures recommended by the committee. Your committee recommends that this subject be continued for next year.

Scrap Paper—A shortage of scrap paper continues and your committee recommends that each road continue to salvage and dispose of all possible scrap paper to assist in the war effort.

Safety at Scrap Plants—Shortage and turnover of manpower during the emergency necessitated longer working hours. This, with worries on account of loved ones in the service of their country on fighting fronts, has caused some of our safest workers to forget safe practices temporarily and has resulted in increased accidents. To combat these conditions your committee suggests that extra effort be put forth with all workers to encourage the observance

of safety rules, the wearing of proper clothing, the use of proper equipment, and the thinking of safety at all times.

M. of W. and Construction Materials

By C. B. CHAPMAN, Chairman*

The subject of maintenance of way and construction materials including proposals or recommendations, insofar as the purchasing, effective storekeeping and disbursement angles are concerned, divides itself into two major categories:

(A) Materials stocks at appropriate concentration locations, i.e., storehouses and complementary materials yards, and (B) stocks of unapplied materials distributed to line-of-road locations for use by and in immediate charge of track foremen, bridge and building gangs, maintainers and others.

Category "A" stocks are maintained at proper level to duly protect maintenance and repair needs, principally through purchasing and direct shipment to appropriate distributing storehouses or concentration locations and possibly, to a small degree, through manufacturing of certain items in company shops.

Purchased stock replenishments in this category include frogs, switches and parts; track fastenings; track and roadway tools; motor car and push car parts; signal and interlocking materials; telephone and telegraph materials; water service materials; building lumber; work equipment repair parts.

Category "B" stocks obviously should be held to the minimum consistent with maintenance or repairs actually in progress or in definite prospect. Replenishments are made through supplying from Category "A" and through purchase and direct shipment, according to type and character of the materials involved. Although it is strictly essential that a railroad have category "B" stocks or line-of-road inventory, these should be minimized through concentrating and holding the general run of involved materials in category "A" stocks as long as may be possible consistent with prompt and effective handling of roadway and structure maintenance, repairs and authorized construction.

The purchased commodities and stock replenishments in this group, shipped direct to the line-of-road to simplify physical handling and for other obvious reasons, include new rail; cross-ties, switch ties, bridge timber and piles; rail crossings; bridge and building structural steel; ballast, miscellaneous materials (special as to volume, purpose and character of job).

Category "A" Material Stocks

Inventories of unapplied locomotive, car and general usage materials and supplies are generally under the immediate jurisdiction of a unit stores organization function-

* Assistant Superintendent Roadway Shops, Southern.

ing in close cooperation with the using departments, to provide a constructive check and balance between supplier and user in the control of the investment therein. A storekeeper of some rating with adequate supporting force usually is located at every shop point large and small, including round-houses and car repair yards, where such specific work requires the full-time duties of at least one individual to handle all materials procurement and supply work.

The progressive trend of coordinated stores department organization has been toward storekeeping for car and locomotive materials and inversely, from an overall standpoint, a corresponding storekeeping coverage has not been attained on M. of W. and S. materials. The basic purpose storekeeping in the interest of the two major materials using departments has not been equivalent. The prime purpose of your committee in making this debatable observation is to focus attention on potential storekeeping progress in roadway and structures materials.

The foregoing is not to suggest that M. of W. and S. materials be carried at all storehouses on any railroad. Rather such materials would only be stocked and supplied from principal stores, where a rather full line of other materials are carried. The fewer such dual stores the better; such distributing centers should be appropriately located for individual railroads.

In event of there being certain M. of W. and S. facilities for repairing signal apparatus, telegraph and telephone equipment, motor cars, etc., and located elsewhere than immediately adjacent to a general materials storehouse, such facilities would require a considerable stock of parts that are also commonly used on the line-of-road; and in such cases it may be advisable to constitute such shop-store as a supply point for the line-of-road in lieu of a dual store. The storekeeping responsibilities at repairs shops may be divorced from the actual repair work and its direct supervision conducted as at a maintenance of equipment department repairs shop.

The general run of oils, greases and miscellaneous common supplies (other than tools) required by roadway and structures department personnel would be supplied, not necessarily from a stipulated dual store but from the nearest or most convenient local store. The matter of supply cars, supply trains, deliveries via automobile trucks, or alternate methods of distribution for tools, miscellaneous supplies and other materials to M. of W. and S. line-of-road forces is largely for each railroad's own determination based on prevailing conditions and applicable merits of varying methods.

Recommendation

It is recommended that where such a setup is not now in effect, the directing personnel of coordinated stores department organizations on individual railroads be assigned or agreeably assume equally as full a degree of coverage and responsibility for M. of W. and S. materials stocks in category "A" as is vested in such personnel insofar as locomotive, car and general usage materials and supplies are concerned.

Effective supply service to all consuming departments and inventory control are the full-time twin objectives of a unit store-keeping organization.

Category "B" Materials Stocks

Although M. of W. and S. materials distributed to points of usage usually are in the immediate charge of track, bridge and building or water service foremen, signal supervisors and maintainers, and telegraph and telephone maintainers, etc., policing of the materials by the stores department is recommended, especially if full store-keeping coverage by stores department personnel is intended.

The general duties of such stores representatives, regardless of title, would be to:

1. Assume that M. of W. and S. forces have adequate materials on hand for their current needs.

2. Insure as best possible that disbursement accounting returns are made of materials used.

3. Check line stocks to insure return of surplus to storehouse category "A" stocks for redistribution.

4. Keep scrap rail headed for concentration points.

5. Keep miscellaneous scrap moving to stores department general scrap yards.

6. Arrange to go over any abandonments of track or facilities with the operating department involved to the end that:

- (a) All standard usable material in good repair be shipped to the proper storehouses,
- (b) all standard repairable material be sent to the proper repair point, and
- (c) obsolete material be shipped to the scrap dock promptly.

A two-way identification of the basic consist of distributed line stocks would be to define them as follows: "Materials" are commodities, articles, parts, assemblies, etc., which become part and parcel of track, bridge, building and other structures and work equipment. The values of such "materials" are nominally charged out of stock and to maintenance, repairs or construction on the basis of actual usage. "Tools and Supplies" are items used in the operation of facilities and in the application or use of "materials" and are nominally charged out of stock and to maintenance or operating accounts concurrent with their issue or shipment from storehouses.

Changes in the Manual

Your committee has reviewed revised "Rule 10—Maintenance of Way Materials" recommended to supplant Rule 10 in the Manual in the 1941 report of this committee and, based on the foregoing report, recommends for the Manual Committee's consideration and action (a) inclusion of the following as Section 1 of revised Rule 10:

Section 1—Jurisdiction:

The stores department, through the chief stores officer, is to have direct jurisdiction over all unapplied maintenance of way materials on the railroad, whether located at storehouses or distributed to the nominal point of use on the line-of-road.

- (b) the renumbering as Sections 2 to 10 inclusive, of sections captioned Section 1—

Forecasting Requirements to Section 9—General, inclusive, in the 1941 Committee Report.

Diesel Locomotive Parts

By V. N. DAWSON, Chairman*

After several years' experience in the operation of Diesel locomotives we find that basically the same methods as apply in ordering and storing materials for locomotives of other types apply in ordering and storing materials for Diesel locomotives. It is necessary to depend upon the builders for the initial supply of maintenance materials, but experience has taught that the builders are generous in their recommendations. It is, therefore, well to temper the ordering of these materials to prevent carrying items that are apt to become obsolete before the need for them arises. It is well periodically to go over all stocks on hand with the mechanical department representative who is responsible for the operation and the maintenance of Diesel locomotives, to weed out and return to the builders such materials that are likely to become obsolete or materials which experience has shown it is not necessary to carry for general operation and maintenance.

Storing Diesel Materials

Generally the same principles that apply to storing materials for locomotives of other types apply in storing materials for Diesel locomotives. It is the consensus of your committee that materials, so far as practicable, should be arranged in accordance with the builders' piece numbers instead of being segregated for various units. Materials made in company shops or secured from sources other than the builders should retain the builders' piece numbers to make identification easy.

All materials for the interior working units of Diesel locomotives should be stored in well-ventilated and heated buildings, because condensation of moisture is very injurious to certain parts.

Gaskets should be stored so that they will retain their original shapes; the best method is to place them on panels, horizontally, or vertically if proper precautions are taken to make sure they retain their original shapes. Practically all other shelf items can be stored in much the same manner as other materials. However, it is recommended that open type steel shelving be provided because such shelving affords greater flexibility in arranging materials when changes are necessary.

Stock Records

It is recommended that Diesel materials be carried in the regular type of stock books or on stock cards, and that the inventorying, ordering, and surplusage be handled in much the same manner as for

* General Storekeeper, Baltimore & Ohio.

other materials. It is the consensus of your committee that materials peculiar to Diesel engines be carried in a separate class and that all other materials be carried in the regular classes provided for them.

It is necessary that many parts be carried for protection rather than for regular maintenance. Stock records should be marked accordingly and whenever consistent these items should be segregated at a central point to avoid duplication of stocks. Constant policing is desirable to see that none become obsolete and that no items are carried after experience has shown that such stocking is unnecessary.

Performance and Guarantee

One of the most important items in connection with handling Diesel locomotive parts is following up the units where performance is guaranteed. It is recommended that this particular subject be featured in the education of all employees engaged in handling Diesel materials.

It is urged that as a matter of education and information all purchase and stores representatives see to it that all the service bulletins issued by the locomotive builders are placed in the hands of those responsible for purchasing, handling, and caring for Diesel materials.

Education of Employees

It is recommended that all employees engaged in handling Diesel materials be given an opportunity to attend Diesel courses offered by the builders. It is also recommended that a specialist for following up the purchase and storing of Diesel materials be provided, because the responsibilities in connection with this work are so many and diversified that they preclude being efficiently handled by someone assigned to the supervision of materials in general.

Diesel Fueling Facilities

Providing Diesel fueling facilities depends entirely upon the method of operation on the individual railroad, but it should be borne in mind that Diesel operation is in its infancy, and recommendations should be made accordingly. Because expansion is very rapid, it is desirable that facilities which can be expanded, be considered in every recommendation. For smaller points, it is urged that facilities sufficiently large to care for tank car or truck transport lots of fuel be provided. Experience has shown that storage of at least 15,000-gallon capacity is required.

Recommendations

Before any facilities are installed for the reclamation of crank case oils, the matter should be exhaustively explored and the ultimate use of such reclaimed oils should be thoroughly considered.

It is urged that a segregation of Diesel locomotives by builders be made wherever consistent with efficient operation, as such segregation eliminates duplication of stocks and contributes to economies of operation.

Stores Organization

By E. H. HUGHES, Chairman*

Single item stock book sheets and stock record cards seem to be in greatest favor and appear to be used on most lines. Books and cards are arranged to record operations for periods of from two to eight years. Master records are being maintained in general storekeepers' offices in about the same manner as with the conventional multiple item stock book sheet.

Perpetual Inventory

The dictionary defines "perpetual" as "never ceasing, continuous, endless, everlasting." There seems to be widespread differences of opinion as to the meaning of the term. To our minds the term "Perpetual Inventory" signifies that an accurate record is on file, indicating at all times the exact quantity of any item in stock. This, in our opinion, can be maintained only by a daily record of receipts and issues being posted to the stock record and a new balance being drawn with each transaction.

Investigation brings out that the general tendency is away from the multiple item stock book sheet. Most of the roads contacted are thinking in terms of individual item stock book sheets, cards and perpetual inventory records for at least a portion of their stocks, diesel materials being most frequently mentioned as the influencing factor.

Some of the larger lines which have been working with the perpetual system have expressed the opinion that the cost of maintaining is no greater than in taking monthly inventories and intermediate checks to ascertain quantities of materials on hand. We commend this subject to the membership for thorough discussion and possible clarification as to the meaning of the term so that all may have a clear understanding. The continued expansion of diesel locomotives, air conditioning, etc., and the advent of the steam and gas turbine locomotives, as well as electronics in train operations and communications, will bring the need for closer study and controls to the front very rapidly.

Annual Inventory

The following plans for annual inventory have been found to be in use:

(a) By direct entry to stock books and/or stock cards which carry prices; extensions are made thereon and a statement is presented to the accounting department of values only by classes.

(b) On prewritten sheets which are a copy of the previous year's inventory and are made when inventory is written, short carbons are used omitting quantities and prices. Complete and proper description is available and only the quantity needs to be inserted.

(c) By listing only quantity and code numbers and submitting to accounting department for completion on business machines.

(d) By listing on inventory cards for later sorting, classification, pricing, extending and writing in class order.

* Purchasing Agent, Kansas City Southern, Louisiana & Arkansas.

(e) On printed cards using addressograph plates for description same as in stock books. Master cards are maintained in the general stores office; the amount at each outlying store is inserted on this card, one total is struck, priced, and extended and the value for the entire line is determined.

(f) Some commercial concerns are making use of dictaphones.

(g) Radiotronic recording is coming into greater use and since the recording discs can be filed for permanent record there is every reason to believe that this will open up new avenues for our consideration.

It is not felt that the carrying on of the C. M. P. or a similar plan after the war would result in any advantage. Such plan, in our opinion, requires estimates over too long a range to be either necessary or practicable under normal conditions.

Inactive Materials

Stocks should be carefully and constantly combed for surplus, inactive and obsolete materials by every member of the stores department. All such items should be aggregated at the general stores where they can be made available to the entire line, written out of the accounts as scrap, advertised to other lines, or in many cases returned to the manufacturer for credit or exchange for other currently needed items.

Report on Fuel

By C. H. HOINVILLE, Chairman*

Heavy fuel oil has been scarce in the Mid-Continent area and as a result railroads operating in that territory have been compelled to obtain their quota from the Gulf Coast.

The Petroleum Administration for War allocation committee meetings, held each month in conjunction with representatives of Southwestern railroads, have continued as an important activity of your committee, and have assured that railroads will be able to accumulate sufficient surplus during the summer from which to draw during the winter months or periods of greatest shortage.

This situation is general throughout the United States except for the Gulf Coast where fuel oil is plentiful. The Eastern seaboard is drawing on the Mid-Continent area, and bunker oil for California points is being supplied from the Caribbean territory.

A survey of diesel fuel oil requirements indicates actual consumption for the railroads of the United States March, 1944, 23,644,422 gallons; March, 1945, 33,718,242 gallons with an estimated average consumption of 41,754,520 gallons per month for the balance of this year, or an increase of 24 per cent. The oil companies anticipate no difficulty in handling the demand.

Specifications

It may be well to consider a standard

* Fuel Buyer, Atchison, Topeka & Santa Fe.

form of specifications for heavy fuel oil, and the committee submitted a proposed specification for consideration as recommended practice by the Mechanical Division, A. A. R.

The diesel fuel oil specifications are not standardized enough by either railroads or manufacturers for submission at this time.

Weed Burning Oil

Attention is directed to the imperative need for conserving oil used for weed burning. Many railroads have reduced their requirements by the use of chemicals which will have a tendency to conserve our oil stocks. It is recommended that chemicals be used to the greatest extent possible.

Bituminous Coal

Continuing its interest and activity in all phases of bituminous coal since its report of last year, your committee of fuel purchasing officers has followed developments closely. The extraordinarily severe weather of last winter was a serious detriment to coal production, particularly at strip or open-pit mines, and the transportation difficulties caused by ice and snow made the distribution of bituminous coal an ever-present problem.

The wisdom of railroad management in complying with the request of the Advisory Council of the Solid Fuels Administration for War, of which President Pelley of the A. A. R. is the railroad representative, in the storage of coal last summer obviously was justified during the past winter when it became necessary for the railroads to recover a large portion of these ground storage piles to meet the deficit between their consumption and the reduced coal procurement shipments.

The patriotic and sensible attitude exhibited by the mine operators and their employees in the final conclusion of the new wage agreement with comparatively little stoppage of work at the mines contributed to composing a situation which had caused anxiety in fuel consuming circles. Subsequent approval of the wage contract by Government agencies and increases in maximum prices authorized by O. P. A. will increase bituminous coal procurement costs 16 cents per ton on a country-wide average with higher and lower amounts to individual consumers dependent on the origin of their supply in the various producing districts allowed different price increases by O. P. A.

As in the past, your committee, in contact with Government representatives, assisted the S. F. A. W. in various problems requiring decisions, the most noteworthy being that of supply for the Northwestern railroads via the Great Lakes.

S. F. A. W. estimates a shortage in production during the coal year ending March 31, 1946, after considering cutbacks from war production in this country, export coal for Army and other uses in Europe, and the customary seasonal shipments via the Great Lakes, and is urging fuel procurement officers of all industries to cooperate whenever practicable in the acceptance of coal when available this summer so that stock piles may be replenished prior to next winter.

Material Stock Inventory-Pricing

By S. C. KING, Chairman*

The material stock report was adopted at the 1927 annual meeting, the purpose being to provide a means of comparison with other roads regarding investment in material stocks and turnover. It was realized that differences in operating conditions and accounting practices would result in some inconsistencies; however, it was a move in the right direction and the report has provided purchasing and stores department officials with a yard stick that has been highly beneficial. The report for the period ending June 30, 1944, covers transactions on 98 railroads representing about 93 per cent of the total operated mileage of all Class I roads. Since comparative figures of this nature are used very extensively special efforts should be made by responsible officials to supply this information.

Consolidated Report

According to the consolidated material stock report and statistics of the Bureau of Railway Economics the value of material on hand for all Class I roads at the close of 1943 amounted to \$533,157,161 and represented an increase of about 5½ per cent over the previous year. The balance represented slightly less than 10 per cent of the operating expenses for the year. The number of days' supply shows a substantial decrease in the face of increasing demand and uncertain deliveries.

In view of the ample testimony in the records regarding the value of these statistics it is recommended that those roads which have not been reporting these results make a special effort to do so in the future.

* Traveling Material Accountant, Florida East Coast.

If the entire classification cannot be separated, such information that is available should be furnished.

Pricing Methods

There has been a steady movement during recent years to centralize departmental accounting; in some cases this change has been made to take full advantage of accounting machines which were installed primarily for use in interline freight and passenger accounting, wage returns to the Railroad Retirement Board, and for payroll accounting and miscellaneous work which may be adapted to these particular machines.

The computation of prices from purchase bills and shop orders may be computed rapidly and accurately in a central accounting office and price changes may be furnished to distributing stores by means of bulletins. The many advantages of direct pricing have been fully described in previous committee reports and it does not appear necessary to repeat them here.

The preparation of price records, stock sheets and inventory cards is greatly facilitated through the use of addressograph machines. The plates used with these machines may be equipped with selector tabs to cover the stock at particular stores. Similar records may be prepared by punch card method where such machines are available.

Purchasing and stores department officials should carefully investigate the use being made of accounting results which they produce. When separate exhibits are prepared for each store or division it may be found that one exhibit will answer all reasonable requirements for the entire road. Such a plan greatly simplifies the maintenance of price records as well as other accounting details.

Although the primary purpose of annual inventory is to bring the balance in Account 716-Material and Supplies into harmony

with the value of material actually on hand, other benefits of inventory are important and should not be ignored. Inventory results often reveal weaknesses in our accounting and material handling practices.

As the procedure of annual inventories is generally prescribed by the chief accounting officer, purchasing and stores officials should be on the alert to bring to his attention any new or improved methods.

Note "B" under Account 716-Material and Supplies provides that an inventory of material and supplies shall be taken during each calendar year but it does not describe the form in which the inventory shall be prepared. I. C. C. regulations regarding the preservation of records, provide that the annual inventory records shall be retained for six years. These regulations should be considered carefully in connection with any change in practice.

Inventory Differences

Inventory differences are the cause of large debits and credits to railway operating expenses and corresponding adjustments in the material balance. Therefore, it is important that inventory records should be in such form that they can readily be verified should the occasion demand. In recent years the I. C. C. has waived the requirements with respect to taking annual inventory. It is recommended that special efforts be made to take inventory each year so that charges to expenses may be assigned to the year in which they occur and that accumulated differences in material classes will be avoided. Over a period of years those differences are difficult to locate and result in misleading statistical reports.

Further study and investigation should be made of the plan of taking the inventory, when practical, on space provided in the stock records. Where other methods are employed, advance preparation is important to the end that the actual count of material may be completed quickly.

Unsafe to Appease the Communists

"Let us talk for a moment about words—the words, for example, 'good' and 'evil.' These words, when applied to fundamental political policies and actions, have about the same meaning to all average Americans. But do they mean the same to us as they do to Communist leaders in Europe or Asia or South America or North America today? The appalling fact is that good and evil not only don't have the same meaning for them—they sometimes have no meaning at all.

"When a Nazi S. S. man seizes a Jew, without due process of law, and throws him into a concentration camp, where he is tortured or starved to death, we say that deed is murder. No Nazi nonsense about racism or international Jewish plots or the security of the Reich can change that judgment in the eyes of man or God.

"When a Communist O.G.P.U. agent strips a Russian of his small farm and few pigs without due process of law, and then allows him to starve to death, or sends him to a slave camp in Siberia, that deed is murder, too. And no Communist twaddle about implementing the peoples' revolution, international capitalistic plots, or the security of the proletariat should change that judgment in the eyes of man, or can change it in the eyes of God.

—Representative Clare Booth Luce (Conn.) in a speech printed in the Congressional Record.

"The imposed death or imprisonment of any individual who has not been tried by a free jury of his peers under laws which have been framed by the will of the people are, we say again, evil things called murder, called slavery. They were evil when the Nazis practiced them. They are evil when the Communists practice them as they do today on a wholesale scale in all of Russia and in central Europe.

"The very words 'right,' 'good,' and 'just' mean exactly what Stalin says they mean—but only on Monday morning. For on Tuesday morning he may change his mind. If so, the Russian people are required and every Communist leader in the world is required under pain of death or exile to change their minds accordingly before Wednesday. For truth to a Communist and Moscow leader is never an absolute. Truth is exactly what suits the Communist leaders' political policy or purposes, or even personal whims, at any given moment.

"No American wants war again in our generation. But surely in this last decade we have learned in blood and toil and tears and sweat that appeasement is the road to war. If we want to stay out of war with Communism we must not appease Communism."

Technological Problems

(Continued from page 6)

the purchase of additional Diesel locomotives.

Much has been written recently about the gas turbine as a new type of locomotive power. As far as I know, only one has been built—in Switzerland just before the war. I understand that it is not in service because it burns petroleum fuel which is not available. Two large manufacturing organizations plan to produce gas turbine locomotives in this country as soon as war restrictions on material and labor will permit. As we know it today, the gas turbine is considerably less efficient than the Diesel engine in converting available heat in the fuel oil into power. The gas turbine, however, burns a lower grade and, therefore, less expensive type of oil than is required for Diesel operation and the gas turbine proponents state that its dollar efficiency, that is, its cost of operation, is comparable with that of our present Diesels. While gas turbines are being used commercially in stationary industrial installations in this country, it is too early to speculate what their position may become in locomotive design.

Cars

As to the cars in which we carry commodities, our basic problem today is one of trying to reduce the dead weight. For some years there has been a gradual tendency in American railroad practice to increase the capacity of cars. Unfortunately, shippers have not fully utilized the increased capacities, as a result of which the ratio of equipment weight to the weight of commodities carried has been gradually increasing. Lightweight freight car construction is one of our major problems. There are a number of ways by which the weight of freight cars can be reduced. Welding connections instead of riveting is one obvious method. Another is by the use of stronger steels, which, because of their greater strength, can be used in thinner sections and still produce the same strength of the structure. Such steels are available and are not difficult to fabricate. Since in this case weight saving is accomplished only by using less metal, the life of the structure from the standpoint of corrosion attack is an important consideration. Fortunately the high strength structural steels available today incorporate superior corrosion resistance as compared with the ordinary steels and presumably cars will not have reduced life because of lighter construction. Lightweight metals, particularly aluminum, are being considered as a means of reducing freight car weight.

Since the problem of weight reduction is solely an economic one, it is necessary to approach it on a strict basis of cost. If in saving a pound of dead weight in a freight car we spend more money than the reduction in weight will return to us in operating economics, then we have wasted and not saved. If, on the other hand, we can purchase weight reduction

at a price which is advantageous from the operating standpoint, then such a reduction is extremely important and valuable. It is difficult to arrive at an accurate figure of the worth of weight saving in railroad equipment. Such a figure includes consideration of the average annual mileage a car will make, whether it is to be handled in trains which comprise the maximum tonnage a locomotive can haul, the grades over which the equipment runs, the degree to which the car is loaded, fuel and lubrication costs, percentage of total time the car is in active service, and many other considerations. Because of these uncertainties, we can make only a vague approximation of the value of weight saving.

One of the most able railroad car designers in the United States, K. F. Nystrom of the Chicago, Milwaukee, St. Paul & Pacific, has studied this problem extensively and has concluded that freight-car weight saving can be considered advantageous if purchased at not more than 10 cents per pound. Using Mr. Nystrom's figures, if you can save a pound of weight at the expenditure of 9 cents, it is a profitable proposition. If it costs 11 cents to save the pound of weight, then the operating economies will not justify the additional initial expense. Of course, this figure cannot be considered hard and fast because of the many variables I just mentioned. It does offer an approximation, however, which is interesting in appraising the costs of some of the means and materials by which weight can be saved. For instance, if magnesium metal costs approximately \$1.00 per pound, there would not seem to be much likelihood of its use in freight car construction. As a matter of comparison, Mr. Nystrom has estimated weight saving in passenger cars as being worth \$1.00 per pound. In aircraft construction, I understand that \$100.00 a pound is considered a reasonable figure of the worth of reduced weight. It does not at all follow, there-

fore, that, because aircraft manufacturers economically and advantageously build ships with aluminum and magnesium and plywood, similar constructions are automatically advantageous for railroad cars. The same principles apply but the details are vastly different.

We have a similar problem in connection with roller bearings on freight cars. Roller bearings offer some definite operating advantages and are virtually standard equipment on all modern passenger cars. Except for some experimental installations, however, they are not used in freight service. The reason here is again an economic one. Assuming that the average freight box car costs from \$3,000 to \$3,500, the installation of roller bearings would increase that cost around \$500, or 15 per cent. So far railroads are not convinced that the increase in cost will result in sufficient operating economy to make it a paying investment.

The use of radio, or, more accurately, electronic communication, in train operation is an extremely active subject at this time. Ordinary space radio, useful as it is in aircraft and marine communications, has limitations when it is applied to railroad operations where multiple track lines on the same railroad and paralleling lines of other railroads complicate the situation greatly. The Federal Communications Commission has recently allotted some wave bands for experimental use by railroads. There are electronic communication methods available which do not involve space radio which many people feel may be superior to space radio for railroad communication purposes. The whole problem is still too new to attempt a forecast of its ultimate outcome.

These are only a small handful of the myriad of technological problems which are faced today by our railroad systems. The problems of improvement of operations are being attacked vigorously and improvements are being made continuously.



Presentation of the 1944 Harriman Memorial Gold Medal Award

C. L. Jellinghaus (second from right), vice-president and general manager, Michigan Central, accepting the safety award for his railroad from E. Roland Harriman (second from left) at the recent dinner held at the Waldorf-Astoria hotel, New York. From left to right: Judge R. V. Fletcher, vice-president Association of American Railroads, and chairman of the Harriman award committee; Mr. Harriman; Col. J. Monroe Johnson, director, Office of Defense Transportation; Mr. Jellinghaus; and Wallace J. Falvey, president of the American Museum of Safety. (For further details, see *Railway Age*, June 30, page 1141.)

Army Railroading on Bengal & Assam



**British-American-Indian Managing and Co-ordinating Body
for Calcutta-Assam Line of Communications**

(From left to right): Maj. G. E. Jones (U. S.); Col. L. M. Rose (U. S.); Lt. Col. P. E. Turner (U. S.); J. D. B. Osborn (Civilian); Brig. B. C. Mason (Br.); Capt. A. E. Willingale (Br.); Lt. Col. Q. More (Br.); Lt. Col. W. O. Reynolds (Br.); R. S. Vipan (Civilian); Sir Robert Marriott (Civilian) and J. Aitken (Civilian)

Though Power Units for Coaling Have Been Introduced by the M.R.S., Indian Laborers Still Coal the Locomotive Tender by Hand in Case of Emergency—This Method Formerly Had Accounted for Serious Delays in Servicing Locomotives



(Above)—Built in Glasgow, Scotland, in 1894, This Locomotive Is Used for Light Work in the Vicinity of Tinsukia

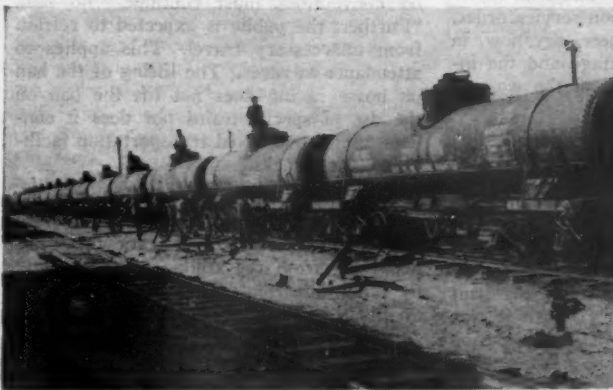
U. S. Signal Corps Photos

(Below) — Powerful Searchlights, Installed by U. S. Army Railroaders, Have Made Possible Such Night Operations as the One Here Shown at the B. & A.'s Pandu Railway Ferry, Where a Locomotive Is About to Haul a Railway Car Off a Barge

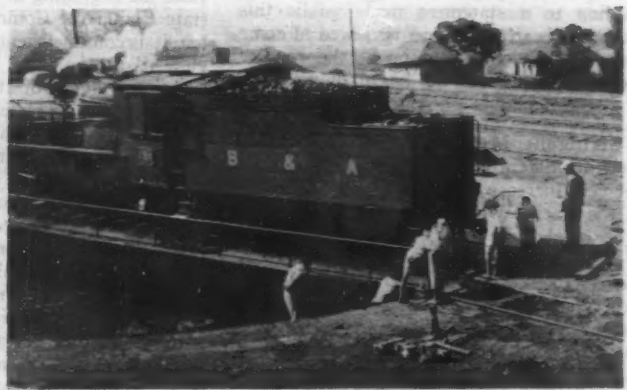




(Left) — Pontoon and Barge of Amingaon-Pandu Car Ferry, Which Is Operated by the Indians Under U. S. Supervision—The Rails in the Fore-ground Permit Car Loading Operations When the Water Level Is at a Higher Stage—(Below)—There Is No Switching Locomotive at the Bogapani Siding, Near Ledo—The Elephant Shown Here Can Still Push Several Loaded Cars, Despite His 80-Odd Years



T/5 Emory P. Boring, Jr., of Longview, Tex., Supervises Indian Civilian Laborers Turning the Locomotive on a Manually-Operated Turntable at Amingaon



100-Octane Gasoline Being Pumped into Meter-Gage Tank Cars at B. & A. Railway Yards at Parbatipur, Now Operated by the M.R.S.



A Familiar Sight Along the Railway —Indian Women Working at the Ashpits

An M.R.S. Wrecking Crew Using an Old Steam Crane to Clear a Derailed Freight Car from One of the Tracks Leading to the Ferry Across the Brahmaputra River



Railroads-in-War News

Westbound Traffic To Grow 40% More

Army's "redeployment" beats
schedule; Johnson banks on
railroads' "stretch"

Following a tour of inspection of western railroads, Col. J. Monroe Johnson, director of the Office of Defense Transportation, brought back to Washington the conviction that the railroads to the Pacific coast are now operating at close to the capacity of their present equipment and manpower, according to a statement made public this week. This situation was reviewed at some length by Colonel Johnson at the regular meeting June 29 of the board of directors of the Association of American Railroads.

Stringent Measures Called For—In view of the prospect of an additional 40 per cent increase in the movement of traffic to the Pacific when the war effort in that area reaches its peak, stringent measures are called for to enlarge the railroads' capacity, the O. D. T. head indicated. He expressed the opinion that their capacity can be increased by 25 per cent, provided they are able to get the added manpower they need, and provided civilian transportation requirements are curtailed so that war materials can be expedited. Of the remaining 15 per cent increase, it may be possible to handle 10 per cent by water through the Panama Canal, leaving a "spread" of 5 per cent for which no very specific provision can be made at present. The railroads will just "have to stretch," Colonel Johnson declared.

One reason that the burden on the western roads is becoming steadily more acute, it was explained, is the extent to which the rate of return of men from the European theater to this country for "redeployment" and eventual movement to the Pacific theater is exceeding earlier estimates. The whole program for moving these men about the country, and of transporting supplies and equipment for their needs in the war against Japan, has to be accelerated to keep pace with this rapidly mounting rate of return, it was pointed out.

Whether the use of the Panama Canal to the extent suggested can actually be accomplished depends upon circumstances beyond the control of the O. D. T., particularly the necessity of using vessels for floating storage facilities in lieu of land facilities in and near the fighting areas. The expectation that some 10 per cent of the additional traffic movement into the Pacific may be handled by ship through the canal depends entirely upon the maintenance of a continuous movement of vessels to and from the Gulf and Atlantic coast ports,

Colonel Johnson remarked, and withdrawal of any substantial number of ships for storage purposes would upset this movement and add further to the burden on the western railroads.

Situation "Tightest in History"—The freight situation on the western roads was described by the O. D. T. this week as the "tightest in history," as it called upon shippers and railroads to make better use of empty westbound refrigerator cars in the movement of non-perishable freight to appropriate western destinations, thus relieving the drain on the supply of other cars and curtailing empty car movements. Such use of refrigerator cars has been permitted since the beginning of 1943, under an Interstate Commerce Commission service order, but it becomes urgently necessary now, in view of the box car shortage and the increasing volume of traffic on the western roads, it was explained.

Colonel Johnson called attention to the large volume of perishable freight that must be moved out of the Pacific coast territory to meet consumer demands in other parts of the country and to avoid loss to producers. Emphasis was put upon the need of maintaining an ample supply of refrigerator cars in the California fruit producing areas particularly, when it was pointed out that a waste of transportation facilities results from the movement of large numbers of empty refrigerator cars westward at the same time that empty box cars are being moved eastward because the bulk of the loaded movement of traffic, except perishables, is now westbound. As noted in *Railway Age* last week, the commission gave temporary priority over non-military freight to the movement of empty box cars out of certain Pacific coast points as a step toward clearing up an accumulation of empty cars in that area.

Grain Loadings Report

Continuing the weekly summary of the grain loading situation which it began when expressions of alarm over threatened shortages of grain cars recently gained widespread attention, the Office of Defense Transportation has reported that rail shipments of grain and products in the week ended June 23 were 6.6 per cent greater than in the corresponding week last year. The number of carloads shipped was 56,873, as compared to 53,333 for the same week in 1944. This was the 14th consecutive week in which 1945 grain loadings were higher than those for 1944. Total grain loadings for the United States for the first 25 weeks of this year were 1,181,090 cars as compared to 1,150,803 cars for the corresponding 1944 period. In the Western district grain loadings for the week ended June 23 were 40,644 cars, or an increase of 2,898 cars, or 7.7 per cent, over the same week last year.

Travel Controls to Stay, Says Vinson

Year's passenger-miles to go
10% over 1944; discusses
freight load, wages

Congress and the public were reminded that it would be a fallacy to think that normal traveling practices can be resumed any time in the next 6 to 12 months when Fred M. Vinson on July 1 submitted the third quarterly report of the director of war mobilization and reconversion. "Bans on conventions must continue," he said. "Further, the public is expected to refrain from unnecessary travel. This applies to attendance at races. The lifting of the ban on horse racing does not lift the ban on the use of special trains nor does it condone use of overtaxed transportation facilities to race tracks."

No Let-Up in Sight—While the O. W. M. R. director did not specifically refer to the possibility of travel rationing—thus departing from the course taken recently by other government officials commenting on the travel situation—he did assert that "discomfort and inconvenience in domestic travel will persist until the war with Japan is over." The movement and training of troops brought on by the shift from a two-front to a one-front war, liberal furloughs, the relocation of labor incident to partial reconversion of industry to civilian production—these measures, added to essential civilian travel, will "push passenger traffic up to 107 billion passenger-miles—10 per cent above the record created in 1944," according to the report.

Some relief for the railroads in handling passenger travel was predicted by Judge Vinson, however, in his comment that "increased availability of buses, motor trucks, tires and gasoline in the latter months of 1945 should materially lighten the present maintenance problems in the highway transport field, and should provide from 5 to 10 per cent more capacity in bus transportation."

The report suggested that the railroads will have to carry 724 billion ton-miles of freight in the forthcoming year, or only 3 per cent below the 1944 record, the peak year in railroad history. It pointed out that the brunt of the load will fall on the western roads, and emphasized the necessity of hauling by rail to the Pacific coast vastly increased quantities of oil and petroleum products, because of the lack of waterways and pipe lines to that region from the South and Midwest.

R. R. Capacity Isn't Rising—Despite these anticipated demands for railroad service, said Judge Vinson, carrier capacity is

not likely to increase, even though deliveries of cars and motive power have been increased. "Wear and tear and obsolescence are removing equipment from the rails at a rate almost equal to present replacement," he explained, and he went on to remark that "many controls on freight traffic will have to remain up to VJ-day and even beyond, such as full loading of freight cars for carload freight, minimum loading of 10 tons per car for less than carload freight, and the loading of refrigerator cars on return trips with ordinary merchandise instead of sending them empty.

"Other railroad controls such as direction of the movement of tank cars, port control, and additional scheduling of trains will be removed by the Office of Defense Transportation as soon as conditions warrant," the O. W. M. R. director promised. "Present restrictions on the trucking industry will be lifted as soon as production of tires and trucks reaches a point that will permit all commercial operators to rehabilitate their fleets," he added.

Would Raise Wages but Not Prices

—On the subject of wage controls, Judge Vinson observed that the decline in wage-earner income that will accompany cut-backs in war production "raises an acute problem of national economic policy." The "no-strike pledge" of organized labor, he said, "implies an obligation on our part to protect the worker's standard of living. Therefore, we must be prepared to make some upward adjustments to compensate for severe declines in take-home pay. Such adjustments can be made within the hold-the-line price program. . . . Upward wage adjustments cannot be granted without considering their effect on the price level. The period ahead is one in which inflationary pressures will persist. At the same time, deflationary forces, such as the decline in munitions employment and the work week, are developing. Therefore, our task continues to be one of holding the line without, however, permitting a deflationary drop in purchasing power."

Unions Hear Freight Car Output Is 4,000 Per Month Short

If an immediate increase in the production of freight cars from 4,000 to 8,000 cars per month is to be attained—and this immediate doubling of production is vital, according to the War Production Board, for carrying out the "greatest war transportation undertaking in history"—at least 1,800 more skilled workers must be secured for the transportation equipment industry. This conclusion was announced after a meeting June 28 of the W. P. B. "labor advisory committee on transportation equipment."

Brig. Gen. Charles D. Young, deputy director of the Office of Defense Transportation, described to the committee the "extremely serious transportation problem" to which the "redeployment" of millions of fighting men and essential material gives rise. This condition will continue for at least a year or 18 months, he predicted, and in fact until after the defeat of Japan. To emphasize the need for more railroad equipment, the committee reviewed the current car supply situation in the western grain belt, and attention was called to instances farther west where main line trains

Put 5-Day Limit on Advance Reservations

The Office of Defense Transportation, by General Order 52, effective at midnight June 29, prohibited railroads from selling or allocating space on any passenger train more than five days (120 hours) in advance of the date of departure, thus curtailing the 30-day limit on reservations previously in effect.

This action was taken, according to O. D. T. Director J. Monroe Johnson, to assure "maximum utilization of the limited amount of space now available to civilians as a result of the greatly increased demands for military transportation." The order is effective until the termination of the war is proclaimed, unless modified earlier by O. D. T. action.

The order does not apply to seating or sleeping space authorized by O. D. T. general permit, and it did not disturb reservations made but not picked up when the order became effective.

Going beyond official explanations of the order, the understanding prevailed that its purpose was to curtail, or at least to make more difficult, reservations of space for vacation or other non-essential civilian travel, which generally can be planned some time ahead, reducing the space available for business or other more urgent travel for which the need generally cannot be foreseen so long in advance.

have been unable to start when scheduled because of a shortage of crews.

Alfred Lawrence, assistant to the director of the W. P. B. Transportation Equipment division, told the committee that practically all the foundries producing equipment for railroad cars, although on the manpower authorities' "critical" list, are running into a series of strikes, which are rendering the situation "extremely dangerous." He called upon the members of the committee to try to recruit workers for the railroad car builders and supporting industries, remarking that a back-log of 8,000 cars already exists, as compared to W. P. B. schedules. Shortages of welders, riveters, molders and other classes of labor have been reported by 15 firms engaged in car production, he said.

Not only were the car builders 8,000 cars behind schedule, as of June 1, Mr. Lawrence said, but they also faced the prospect of falling further behind as they found it necessary to take men from regular production to expedite the manufacture of the 1,600 troop sleepers and kitchen cars ordered by the O. D. T. to speed the handling in this country of the armed forces being transferred from Europe to the Pacific.

The union viewpoint was expressed in the meeting by Kenneth L. Cole, of the United Automobile Workers (C. I. O.), who argued that the car builders needed improved plant facilities, as well as "improved wage and hour conditions." He sug-

gested that the committee give these recommendations study and that it take steps to "implement" them.

Among others, the unions represented on the committee include the International Brotherhood of Electrical Workers; American Federation of Labor; C. I. O. Reconversion Committee; International Association of Machinists; Brotherhood of Railway Carmen, and Brotherhood of Maintenance of Way Employees, the representative of the last-named group being its president, E. E. Milliman.

Require More Car Location and Passing Reports

In order to effectuate a still closer control of the available car supply, the Car Service division of the Association of American Railroads has arranged to call upon terminal roads and short lines to supply car location reports, and to call upon all roads for the compilation at key points of passing reports by types of cars, according to plans discussed at the June 29 meeting of the A. A. R. directors. The additional reports from the short lines and terminals will enable the Car Service division to keep a more accurate check on the movements of 50,000 to 100,000 cars that are at times on these lines, it was explained.

Another step taken by the railroads toward more intensive utilization of the car supply, which also was discussed at the A. A. R. meeting, it is understood, has been to call upon the Shippers Advisory Boards, in making their quarterly forecasts of car loadings, to estimate requirements by types of cars.

Wheeler Would Cut Travel of Federal Employees

Chairman Wheeler of the Senate committee on interstate commerce has suggested to President Truman that the various agencies of the federal government be urged to restrict the railroad travel of government employees to that which is absolutely necessary. The senator's suggestion was embodied in a recent letter wherein he told the President that many letters have come to him as chairman of the committee, "calling attention to the fact that a tremendous amount of Pullman space used in this country today is occupied by government employees going on what the writers of the letters claim to be useless journeys."

"It has been called to my attention," he went on, "that many of these people buy their tickets with government transportation requests which require a lot of time to fill out, and that frequently you see long lines of people standing still before ticket windows while some government employee takes 15 or 20 minutes arguing about the manner in which the request should be filled out. . . ."

"One man writes to me from Pittsburgh stating that on many occasions there have been hearing examiners from as many as five different federal agencies holding hearings at one time in the city of Pittsburgh. The suggestion has been made that a large number of government employees could be kept off the railroads by creating a staff of hearing examiners who could be ap-

pointed from local attorneys in each community and who would be paid on a per diem basis. . . .

"Complaints are made that every Pullman train is filled with government employees traveling from one place to another, not only at great cost to the government but also at great inconvenience to people who find it necessary to travel to attend to their particular business."

O. D. T. Seeks Information on Service to Race Tracks

The Office of Defense Transportation is making inquiries to determine the amount of transportation at present involved in shipments of race horses to and from race tracks. This was revealed in an O. D. T. announcement of July 2, which said that the railroads had been asked to supply information.

The announcement recalled that O. D. T. orders restricting the transportation of racing animals were suspended when the Office of War Mobilization and Reconversion removed the racing ban. It added that O. D. T. Director Johnson had ordered the present inquiry because of "concern over the tight transportation situation and the heavy requirements due to the Army redeployment program."

Appropriations Held Up, But O. D. T. Can Still Spend

With the National War Agencies Appropriation bill for the fiscal year ending June 30, 1946, held up by the controversy over proposals to provide funds for continuance of the Fair Employment Practices Committee, Congress on June 30 made temporary arrangements for fiscal 1946 funds for the Office of Defense Transportation and other affected agencies. Enacting H.R.3379, the so-called second deficiency appropriation bill for fiscal 1945, it included a provision stipulating that appropriations contained in any regular appropriation bill not enacted by July 1 would nevertheless be available from that date.

Meanwhile the War Agencies bill, having passed the Senate with a compromise provision giving F. E. P. C. \$250,000 instead of the \$446,200 originally proposed, was returned to the House where it was referred back to the committee on appropriations. As passed by the Senate, the bill carried \$7,700,000 for O. D. T., the amount which had been recommended by the Bureau of the Budget but \$700,000 more than the House originally approved.

Army Furloughs 4,000 Men for Railroad Work

The War Department announced on June 29 that the furloughing of 4,000 soldiers with railroad experience for work on the railroads had been authorized for a 30-day period in order to ease the critical labor situation. This action was in response to an "urgent appeal from the nation's railroads," it was indicated, and it followed discussions in which spokesmen for the railroads and the Office of Defense Transportation participated with Army officers.

Pointing out that the authorization was given "to prevent a breakdown of rail transportation under the mounting pressure of

troop and freight movements from Europe to the Pacific," Under Secretary of War Patterson said that the War department had taken this step "with extreme reluctance, and only because we are convinced that there is no other way to maintain the speedy flow of traffic essential to the redeployment of our forces for the war against Japan."

Will Be Train and Shop Men—The men furloughed will be employed as brakemen, firemen, boilermakers, electricians, car repairmen, mechanics, machinists, and helpers. They will be drawn from men now serving in the Army who are not undergoing training in replacement centers and are not "alerted" for overseas movement either as individuals or members of units, it was explained. No man who has not passed his 26th birthday will be furloughed, and preference will be given to those over 30.

"The furloughing of troops to fill civilian jobs is not an efficient way to fight a war," Secretary Patterson declared, "and we had hoped that the diminution of our production needs and the partial demobilization of our Army after the defeat of Germany would eliminate any further need for such furloughs. All of the furloughs previously granted for work in aircraft and tire factories, ammunition plants and foundries have expired, and it is our hope that the present railroad furloughs will be the last for any industrial group."

"The War department is cooperating with the railroads and with government agencies in an intensive recruiting campaign to meet the full manpower requirement of the nation's railroads, particularly those west of Chicago, which are hardest pressed for additional labor," the under secretary explained. "There is no place in which American workers can make a more direct and valuable contribution to the acceleration of our attack on Japan than by taking railroad jobs," he observed, and he concluded his statement by pointing out that "the public generally can help relieve the situation by staying off the railroads except where travel is absolutely necessary."

Name New Officers for O. D. T. Railway Department

The Office of Defense Transportation announced a number of changes in the executive staff of its Railway Transport department, effective July 1, including the appointment of Earle E. McCarty, on loan from the Atchison, Topeka & Santa Fe, as director of the department, succeeding J. H. Aydelott, who returns to his position as general manager—lines east of the Chicago, Burlington & Quincy.

At the same time M. E. Harlan, assistant general passenger agent of the Northern Pacific, with headquarters at St. Paul, Minn., became assistant director for passenger traffic of the same department, succeeding in that post Vincent T. Corbett, who returns to his position as assistant general passenger agent at Chicago of the Chicago, Rock Island & Pacific, from which he was on a six months leave of absence to serve on the O.D.T. staff.

Another change, announced at the same time, is the appointment of L. A. Christiansen as eastern director of the Railway Transport department, with headquarters

at New York. Mr. Christiansen was chief clerk of the Car Service division of the Association of American Railroads until he joined the department staff in April, 1942, as assistant to the eastern director. On June 1 of this year he became acting director. He succeeds as director A. R. Pelnar, who has resigned on account of illness.

Mr. McCarty, who is general manager coast lines of the Santa Fe, became assistant director of the department on May 1. Mr. Aydelott became director February 1, being called back to Washington on loan to take this post after he had been assistant director and later acting director of the department in 1943 and 1944.

In these appointments the O.D.T. has continued its policy of borrowing active railroad men, familiar with current operating conditions, to direct the activities of its railway department, it was pointed out. The particularly important part which the western roads now play in the railroads' contribution to the war in the Pacific is reflected in the continued choice of western railroad men for these positions.

Says W. M. C. Must Stop Recruiting Mexicans

The final version of the Labor-Federal Security appropriation bill for the year ending June 30, 1946, precludes further expenditures by the War Manpower Commission for the importation of foreign workers, including Mexicans brought here for work on the railroads, according to Representative Tarver, Democrat of Georgia, a member of the conference committee which reconciled the differing Senate and House versions of the bill. Although his interpretation was not formalized by congressional action he stated that the funds provided for W. M. C. in the bill, which was signed by President Truman on July 3, can be used only to continue the laborers already in this country.

As noted in the *Railway Age* of June 30, page 1152, the Senate version had proposed \$1,600,000 for continuing the W. M. C. program, that amount including funds for further recruiting in Mexico and other western hemisphere countries. The program insofar as it affected the railroads was supported before a Senate appropriations subcommittee by P. A. Hollar, special representative, operations and maintenance department, Association of American Railroads.

The conference committee agreed to give W. M. C. \$800,000 and Representative Tarver stated in House debate on the compromise that the committee had intended to include in its report a statement to the effect that none of that \$800,000 should be used for the importation of any additional workers. Mr. Tarver further stated that the amount allowed included \$709,000 "to continue laborers already at work in the United States," and that the remainder was for administration, printing and binding, and travel.

"It is expected," he added, "that this money will be used for these purposes and for these purposes only, and that the further importation of labor into the United States will not be had. Our subcommittee of the House appropriations committee was very strongly of the opinion that employ-

ment conditions which are likely to exist in the country after the discharge of 2,000,000 or more men from the armed services will not be such as to justify continuance of this program."

The item allowing the \$800,000 contains a provision stipulating that "no part of the funds herein appropriated shall be available for any transportation of railroad workers." This will involve no change in the existing situation, for the railroads have been bearing the expense of transporting the Mexicans assigned to them.

The bill also carries fiscal 1946 funds for the National Mediation Board and National Railroad Adjustment Board, and the Railroad Retirement Board. The total for the first two is \$616,400, including the \$25,000 which the Senate added for the employment of additional N. M. B. mediators (see *Railway Age* of June 30, page 1158). The Retirement Board gets a total of \$294,135,000, of which \$291,913,000, is the appropriation to the Railroad Retirement Association.

Western Colleges Cut Travel

The adherence of the Pacific Coast Intercollegiate Athletic Conference to the travel conservation plan previously adopted by the National Collegiate Athletic Association has been announced by the Office of Defense Transportation. This conference is composed of 10 colleges and universities on the Pacific coast. The football schedule adopted in accordance with the program involves a reduction of about 65 per cent in the amount of travel normally required, it was estimated.

Urge Shippers to Use More Care in Loading Eggs

The Office of Defense Transportation, in a July 3 press release, has emphasized the importance of proper packing and shipping of shell eggs in refrigerator cars under the provisions of Interstate Commerce Commission Service Order No. 288 (noted in *Railway Age* of March 3, page 433). This order requires that the eggs be packed in wood cases in sound condition, new or used, or in new fiberboard cases, that the cases be stacked at least five full tiers high, and that stowing and bracing to prevent shifting in transit shall meet prescribed standards.

The terms of the order are being generally complied with, according to Samuel G. Spear, director of the O.D.T. Division of Storage, and the situation shows a marked improvement over conditions pre-

vailing a year ago, when the interiors of many cars were being contaminated and damaged by broken eggs and the most intensive use of the equipment was thus interfered with.

"During the past few weeks, however," Mr. Spear said, "we find that some shippers have been reverting to former practices of using old wooden cases not in sound condition, or utilizing previously used fiber cases which were obviously unsound. In some cases, when fiber cases have been used, they have not been securely closed with sealing strips. In other instances, the top tier or layer of cases in some cars has not been entirely filled. The result is that cases have shifted, and egg shipments have been badly damaged."

Shippers and carriers were advised that all instances of non-compliance with the service order's provisions are being referred to the commission's Bureau of Inquiry for investigation, and that penalties may be applied for failure to comply with the terms of the order.

The War Food Administration stated last week that the railroads of the country already have paid more than \$650,000 in claims for shell eggs damaged in transit during 1944. Such claims are "only a fraction" of the damages sustained, it said. These losses were largely preventable, the W.F.A. asserted, and could be traced to improper containers, poor loading of cars, and careless handling in loading and unloading. The W.F.A. has published an illustrated booklet, "Reducing Damage to Eggs and Egg Cases," which is being distributed without charge through its offices in Washington, D. C., New York, Chicago, Atlanta, Ga., Dallas, Tex., and San Francisco, Cal.

R. C. C. Distribution

E. G. Buckland, president of the Railroad Credit Corporation, announced July 3 that the corporation will make a liquidating distribution on July 31 of one-half of one per cent of its fund as of June 30, amounting to \$362,134.18. Of this amount \$336,869.78 will be paid in cash and \$25,264.40 will be credited on carriers' indebtedness to the corporation.

This will bring the total amount distributed to \$67,909,581.05, or 92½ per cent of the original fund contributed by carriers participating in the Marshalling and Distributing Plan, 1931. Of this total, \$39,280,274.88 will have been returned in cash and \$28,629,306.17 in credits.

Materials and Prices

The following is a digest of orders and notices that have been issued by the War Production Board and the Office of Price Administration since June 26, and which are of interest to railroads:

Class B Products—Any Class B product manufactured on an authorized production schedule may be sold to fill any orders received, whether rated or unrated, as long as rated orders are given the precedence required by PR-1 or other applicable regulations or unless a particular W. P. B. order provides otherwise, according to Interpretation 32 to CMPR-1. This is true even though the CMP-4B application (for controlled materials) was filed with the expectation that all sales would be made on rated orders or on particular orders, and even though all production

materials required were obtained by the use of priorities assistance. (A Class B product is any product defined as such in the "Official CMP Product List").

CMP Regulations—Because they will become obsolete with the complete "open-ending" of the CMP, two directions to CMP regulations were revoked, effective July 1, Direction 44 (Steel not needed by producers or distributors to fill authorized controlled material orders) to CMPR-1, and Direction 5 (Disposal of controlled materials procured by a warehouse or distributor for his stock from idle and excess inventories) to CMPR-4.

Direction 73 to CMPR-1—All allotments of materials for the third and subsequent quarters

that are identified by the CMP allotment symbols Nos. Z-1 and Z-2, have been canceled, effective at once. All preference ratings, assigned to production schedules for the third and subsequent quarters that are identified by those symbols, applied to or extended to orders calling for delivery after July 1, also have been canceled. The order was contained in direction No. 73 to CMPR-1.

Electrical Equipment—The production, distribution and sale of transformers, resistors, capacitors or other radio components designed for use in equipment not involving the use of vacuum or gaseous tubes or designed for use in equipment specifically excluded from Order L-265 are not subject to the restrictions of that order. Consequently, such components may be manufactured and sold in accordance with PR-1 and other applicable W. P. B. orders and regulations.

While rated orders for such components must be given preference, W. P. B. said, unrated orders for such components may be filled if this does not interfere with the required delivery dates on a manufacturer's rated orders and is not in violation of any applicable order or regulation.

Machine Tools—Revocation of general limitation order No. L-147, which prohibited special electrical specifications for machine tools, except in specified circumstances, since July 15, 1942, has been announced by W. P. B. The manufacture and delivery of machine tools remain subject to all other applicable W. P. B. orders and regulations.

Paper Stationery—Paper stationery may be manufactured, in all sizes and styles and commercial-type envelopes may have mechanical closures in addition to gummed adhesive flaps, W. P. B. announces. Schedule 7 to Order L-120, issued August 30, 1943, restricted the use of metal closures on commercial envelope flaps already supplied with adhesive seals. Schedule 8 of Order No. L-120, issued October 23, 1943, restricted the manufacture of paper stationery to certain sizes, styles, weights and packaging. Increased supplies of steel for dies and mechanical closures now make the restrictive provisions unnecessary, W. P. B. says, in deleting the two schedules from Order No. L-120, effective June 27.

Road Oils and Asphalt Cements—Manufacture of road oils anywhere in the United States has been banned by formally amending Petroleum Administration for War Directive 50, effective June 29. The amendment was adopted because heavy military demand for residual oil, from which road oils are manufactured, resulted recently in issuance of an order prohibiting sale or use of such oil for paving or dust palliative purposes. The manufacture of 18 grades of asphalt cements and medium curing and rapid curing cutback asphalts will be permitted.

Webbings and Tape—The sale and use of narrow non-electric cotton webbings and tapes (½ in. to 2 in. in width) for non-military purposes is no longer restricted. This action resulted from the revocation of Direction 10 to Order M-317 on June 25.

Prices

Butter—Railroad companies will now be able to pay the jobbers' mark-up in effect on institutional sales when buying butter delivered to commissaries for use in their dining cars and restaurants. The purpose of this action, effective July 2, is to make it possible for railroad companies to buy butter on an equal basis with hotels and restaurants, O. P. A. said.

Before the amendment railroad companies could not pay the jobbers' mark-up provided for institutional sales. That mark-up could be charged only for sales of butter delivered to the place where it was ultimately consumed. The former restriction of the mark-up was to prevent circumvention and evasion of the ceiling prices by persons who might take the jobbers' mark-up without actually performing a jobbing service.

Jobbers have refused to make small deliveries to railroad company commissaries since they could make larger and more profitable sales to hotels and restaurants under the former provisions, O. P. A. said. Today's action is intended to correct that condition. Representatives of the industry have submitted information to O. P. A. showing that it was the customary practice, prior to price control, for the railroad companies to secure butter supplies for their commissaries through jobbers, the agency added.

GENERAL NEWS

5 Months Net Income Was \$264,000,000

Net railway operating income
for the same period was
\$439,677,038

Class I railroads in the first five months of this year had an estimated net income, after interest and rentals, of \$264,000,000, as compared with \$258,127,532 in the first five months of 1944, according to the Bureau of Railway Economics of the Association of American Railroads. The five-months net railway operating income, before interest and rentals, was \$439,677,038, compared with \$452,908,090 in the corresponding 1944 period.

May estimated net income was \$64,700,000, compared with \$59,019,923 in May, 1944; while the net railway operating income for that month was \$99,925,991, compared with \$99,175,346 in May, 1944. In the 12 months ended with May the rate of return averaged 3.96 per cent compared with 4.37 per cent for the 12 months ended May 31, 1944.

Operating revenues for May totaled \$823,024,606 compared with \$804,055,622 in May, 1944, while operating expenses totaled \$547,663,749 compared with \$526,767,253. The five-months gross was \$3,879,480,754 compared with \$3,836,596,178 in the same period of 1944, an increase of 1.1 per cent. Operating expenses in the five months amounted to \$2,654,038,495 compared with \$2,559,311,318, or an increase of 3.7 per cent.

Class I roads in the five months paid \$708,016,187 in taxes compared with \$741,566,337 in the same period of 1944. For May alone, the tax bill amounted to \$157,845,315 a decrease of \$2,738,735 or 1.7 per cent under May, 1944. Seventeen Class I roads failed to earn interest and rentals in the five months, of which 10 were in the Eastern district, one in the Southern region, and six in the Western district.

In the East and South—Class I roads in the Eastern district in the five months had an estimated net income of \$107,000,000

compared with \$112,445,208 in the same period of 1944. For May alone, their estimated net income was \$26,700,000 compared with \$25,678,355 in May, 1944. Those same roads in the five months had a net railway operating income of \$182,094,578 compared with \$191,291,116 in the same period of 1944. Their May net railway operating income amounted to \$41,947,732 compared with \$42,117,678 in May, 1944.

The five-months gross in the Eastern district totaled \$1,659,965,876, a decrease of 1.6 per cent compared with the same period of 1944, while operating expenses totaled \$1,220,130,141, an increase of 2.5 per cent.

Class I roads in the Southern region in the five months had an estimated net income of \$44,000,000 compared with \$46,873,674 in the same period of 1944. For May alone, they had an estimated net income of \$8,000,000 compared with \$9,273,280 in May, 1944. Their five-months net railway operating income was \$68,475,445 compared with \$74,809,992 in the same period of 1944. Their May net railway operating income amounted to \$13,196,514 compared with \$14,975,752 in May, 1944.

Operating revenues in the Southern region in the five months totaled \$564,326,176, an increase of 0.5 per cent compared with the same period of 1944, while operating expenses totaled \$359,523,049 or an increase of 5.1 per cent.

In the West—Class I roads in the Western district in the five months had an estimated net income of \$113,000,000 compared with \$98,808,650 in the same period of 1944. For May alone they had an estimated net income of \$30,000,000 compared with \$24,068,288 in May, 1944. Those same roads in the five months had a net railway operating income of \$189,107,015 compared with \$186,806,982 in the same period of 1944. Their May net railway operating income amounted to \$44,781,745 compared with \$42,081,916 in May, 1944.

Gross in the Western district in the five months totaled \$1,655,188,702, an increase of 4.2 per cent compared with the same period of 1944, while operating expenses totaled \$1,074,385,305, an increase of 4.7 per cent.

A. A. R.'s Outline for Traffic Research

Functions and personnel of
commodity committees
are presented

The organization and work of the Subcommittee on Traffic of the Railroad Committee for the Study of Transportation were outlined in a recent memorandum prepared by the Association of American Railroads. The Railroad Committee is the research group which has been functioning three years under the general chairmanship of R. V. Fletcher, vice-president, research, of the A. A. R., while the Subcommittee on Traffic is headed by F. J. Wall, vice-president of the New York, New Haven & Hartford.

The function of the latter, as the A. A. R. memorandum pointed out, is to take the findings of the various other subcommittees, particularly the reports of the Subcommittee for Economic Study as to the outlook for total traffic available, and the reports of the Motor, Air, Water, and Pipeline subcommittees, plus certain other information, and determine what kind of transportation service the railroads should offer the shipping and traveling public in the post-war period.

Members of the Traffic subcommittee, in addition to Chairman Wall, are: L. R. Capron, vice-president, Chicago, Burlington & Quincy; A. F. Cleveland, vice-president, A. A. R.; Russel Coulter, chief traffic officer, St. Louis-San Francisco; W. S. Franklin, vice-president, Pennsylvania; W. W. Hale, vice-president, Southern Pacific; W. McN. Knapp, vice-president, Central of Georgia; J. E. Tilford, vice-president, Louisville & Nashville; and H. W. Von Willer, vice-president, Erie. E. C. Nickerson is general director of the subcommittee's work.

"These men," as the A. A. R. memorandum put it, "fully recognized the intensity of the problem with which they were dealing. They were also aware that in the last analysis the success of the railroads after the war will depend to a large extent on how well they meet the needs of individual shippers, of specific cities and towns, and the several parts of the country."

To carry out the carload traffic phase of the traffic program, they appointed 25 separate carload commodity committees. Each has a national chairman and generally a member from each major territory or section of the country. The commodity assignment and chairman of each carload commodity committee follows:

Automobiles, Rubber.—E. W. Brunck, assistant freight traffic manager, New York Central.

CLASS I RAILROADS—UNITED STATES

Month of May		1945	1944
Total operating revenues		\$823,024,606	\$804,055,622
Total operating expenses		547,663,749	526,767,253
Operating ratio—per cent.		66.54	65.51
Taxes		157,845,315	160,584,050
Net railway operating income (Earnings before charges)		99,925,991	99,175,346
Net income, after charges (estimated)		64,700,000	59,019,923

Five Months Ended May 31, 1945		1945	1944
Total operating revenues		\$3,879,480,754	\$3,836,596,178
Total operating expenses		2,654,038,495	2,559,311,318
Operating ratio—per cent.		68.41	66.71
Taxes		708,016,187	741,566,337
Net railway operating income (Earnings before charges)		439,677,038	452,908,090
Net income, after charges (estimated)		264,000,000	258,127,532

Beverages.—R. O. Small, traffic manager, Chicago & North Western.
Cement, Stone, Brick and Allied Products.—R. A. Trovillion, freight traffic manager, Illinois Central.

Chemicals and Drugs.—A. Blauel, assistant freight traffic manager, Erie.
Coal, Coke, Iron Ore, Natural Gas.—Roy S. Kern, chairman, Coal, Coke & Iron Ore Commission, C. F. A. Territory.

Cotton, Cotton Seed and Products, Vegetable Oil, Meal and Cake.—H. P. Norden, freight traffic manager, St. Louis-San Francisco.

Farm Machinery and Equipment.—E. Rigg, assistant freight traffic officer, Chicago, Rock Island & Pacific.

Fertilizer.—R. T. Etheridge, freight traffic manager, Seaboard Air Line.

Fruits, Vegetables, Canned Foods.—H. C. Hallmark, freight traffic manager, Southern Pacific.

Furniture.—R. P. Paterson, freight traffic manager, Pere Marquette.

Grain, Grain Products, Aircraft.—J. P. Hacker, freight traffic manager, Atchison, Topeka & Santa Fe.

Iron, Steel, Machinery.—R. H. Miller, freight traffic manager, Pennsylvania.

Livestock, Meat Packing.—G. A. Hoffelder, assistant general freight traffic manager, Chicago, Burlington & Quincy.

Lumber.—J. G. Morrison, general freight traffic manager, Northern Pacific.

Naval Stores.—A. W. Sanders, general freight agent, Central of Georgia.

Non-Ferrous Metals.—R. C. Gill, assistant freight traffic manager, New York, New Haven & Hartford.

Paint and Glass.—S. J. Witt, freight traffic manager, New York, Chicago & St. Louis.

Paper.—B. F. Morris, freight traffic manager, Louisville & Nashville.

Petroleum.—A. R. Bogan, assistant general freight agent, Missouri Pacific.

Plastics.—A. C. McIntyre, freight traffic manager, Lehigh Valley.

Poultry and Dairy Products.—E. W. Soergel, freight traffic manager, Chicago, Milwaukee, St. Paul & Pacific.

Salt.—C. J. Sayles, general freight traffic manager, Wabash.

Sugar, Sirup, Molasses, Leather.—J. C. McGowan, general freight agent, Baltimore & Ohio.

Tobacco and Textiles.—R. J. Brown, assistant vice-president, Southern.

Wool.—P. H. Burnham, freight traffic manager, Great Northern.

Because of the importance of merchandise traffic to the railroads and the complicated problems surrounding it, a separate Merchandise Committee is studying post-war merchandise traffic problems. A. S. Baker, assistant to vice-president, Baltimore & Ohio, is chairman of this group, and T. E. Huffman is merchandise study director.

Organized along lines similar to that of the carload commodity committees, there is a Freight Sales and Development Committee under the chairmanship of L. E. Clarahan, vice-president, Wabash, studying freight sales and development matters. A committee, under the chairmanship of F. H. Baird, general passenger traffic manager, New York Central, is studying passenger traffic. J. T. Webster is passenger study director.

Chicago Gateway Remains Open In Spite of Truck Strike

In spite of a general strike of truck drivers in the city of Chicago that resulted in an embargo of all L. C. L. freight and all forwarder traffic destined to points in the Chicago switching district, which remained in effect from June 16 until June 27, the Chicago gateway remained in a fluid condition for handling of interchange merchandise traffic. Exceptions to the embargo were made of freight consigned to the armed forces, freight moving on government bills of lading, and L. C. L. freight billed to private industrial sidings.

The strike was called, effective June 16, by the independent Chicago Truck Drivers Union in an effort to end an alleged delay by the War Labor Board of a review of the union's demand for an hourly increase

Car Service Division Names Two Vice-Chairmen

To help meet more effectively problems arising from the increasing war demands for rail transportation, the Car Service Division of the Association of American Railroads, has increased its official personnel by the appointment of two vice-chairmen, Warren C. Kendall, chairman of the Division, announced on July 5. One vice-chairman will have direction over matters pertaining to freight-car equipment, and the other will deal with matters concerning passenger-car equipment, within jurisdiction of the Division.

Caleb R. Megee, now manager of the Division's Open-Top Car section, has been appointed vice-chairman in charge of freight-car equipment, and Arthur H. Gass, the present manager of the Military Transportation section has been named vice-chairman in charge of passenger-car equipment.

Succeeding Mr. Megee as manager of the Open-Top Car section will be William E. Callahan, manager of the Tank Car section. Mr. Callahan will continue general supervision over the Tank-Car section, and will be assisted by E. P. Miller, who has been appointed assistant manager of that section.

Joseph J. Kelley, assistant manager, Military Transportation section, has been promoted to the managership of that section, succeeding Mr. Gass.

of 8 cents and a reduction of the straight time work week of from 51 to 48 hours. Officials of the A. F. L. affiliated International Brotherhood of Teamsters refused to sanction a strike by that organization although many A. F. L. members joined the strikers. When it became apparent that the drivers were determined to walk out, the Office of Defense Transportation assumed control of the local truck lines at midnight of June 15, and Ellis T. Longenecker, O. D. T. manager, issued an immediate request for military personnel to escort and man trucks operating in Chicago.

At the height of the strike it was estimated that more than 12,000 trucks were idle. However, the O. D. T., by the use of more than 5,000 soldiers, gradually brought the situation under control and on June 27, the strike was ended.

During the period in which the truck drivers were on strike, the railroads managed to keep their freight houses clear by a general embargo against the acceptance of additional L. C. L. freight destined to Chicago and by operating trap and ferry cars for interchange movements and deliveries to industries having private sidings. The O. D. T. gave the carriers blanket authority to operate these cars, subject to a 6,000-pound minimum. Interchange freight routed via Chicago was accepted without question, but the movement during this period was subject to approxi-

mately 24 hours delay due to the trap car operation. In addition to the ferry cars made by the railroads, numerous large industries loaded cars from their own private sidings to railroad freight houses for re-loading in outbound cars. Some of the larger carriers of merchandise reported considerable accumulation of merchandise destined to industries without private tracks, one reporting many such shipments still on hand on July 2. Those lines operating over-the-road trucks into Chicago were given military escorts between the terminals and suburban points as were the trucks of other motor carriers.

At no time was the strike 100 per cent effective and, commencing about the 18th of the month, increasing numbers of trucks were operated daily, at first by military personnel and later by civilian drivers who gradually returned to work. Priority was given by the O. D. T. controlled truck lines to the movement of military freight, with perishable products given second preference.

Accounting Order

The Interstate Commerce Commission has postponed for another year, from January 1, 1946, to January 1, 1947, the effective date of its outstanding order prescribing operating revenue account 117, Protective Service—Perishable Freight. The postponement came in a June 27 order by Division 1.

Air Line Postpones Proposed Freight Cargo Service

American Airlines, Inc., has postponed until July 18 a proposed inauguration of an air freight cargo service between Chicago and the West Coast. The original plan called for a converted B-24 to take off from Chicago on July 2, loaded with freight for California points. The return trip was to have been made with a cargo of perishable fruits and vegetables from California.

O. D. T. and I. C. C. to Return Some Fiscal '45 Funds

President Truman has signed House Joint Resolution 202, the recently-enacted legislation to repeal unexpended balances of various appropriations for the past fiscal year ended June 30. As noted in the *Railway Age* of June 2, page 994, the resolution repeals \$2,950,000 of the O. D. T.'s appropriation and \$55,000 of the \$338,000 originally granted to the I. C. C. for emergency car service activities.

Dedicate New Haven's Cedar Hill Y. M. C. A.

The new Cedar Hill Railroad Y. M. C. A. building of the New York, New Haven & Hartford at New Haven, Conn., was dedicated on Saturday, June 30, and opened for business on Monday, July 2. This Association will celebrate its golden anniversary late next year. The new building replaces rented quarters which were outgrown and inadequate. It includes 50 dormitory rooms, a reading room, game room and an auditorium which can readily be converted into three separate meeting rooms. The building is strictly up to date in its design and appointments. Eugene E. Oviatt, chief en-

gineer of the railroad and vice-chairman of the board of management of the Association, presided at the dedication ceremonies. Howard S. Palmer, president and trustee of the railroad and chairman of the board of management, welcomed the guests. Addresses were made by William F. Donoghue, general chairman, Brotherhood of Locomotive Trainmen, who spoke on behalf of all of the railroad brotherhoods, and Edward G. Buckland, chairman of the board of the New Haven Railroad. Elwood H. Stewart is the secretary in charge.

May Truck Traffic

Motor carriers reporting to American Trucking Association, Inc., transported in May 2,262,066 tons of freight, an increase of 1.9 per cent above the 2,218,828 tons reported for April but a decrease of 0.2 per cent below the May, 1944, total of 2,265,460 tons. The A. T. A. index, based on the 1938-1940 monthly tonnage of reporting carriers, was 188.09 in May as compared with April's 183.

The foregoing figures, according to the A. T. A. statement, are based on reports from 273 truckers in 42 states. Truckers in the Eastern district reported a tonnage increase of 0.6 per cent above April, but a decrease of 0.7 per cent below May, 1944. In the Southern region, the increase above April was 4.5 per cent, while the decrease under May, 1944, was 3.8 per cent. Western district truckers reported increases of 3.8 per cent above April and 2.6 per cent above May, 1944.

Northern States Prepare Fight Against More Rate Changes

Led by Hugh Jenkins, attorney-general of Ohio, representatives of a dozen northern states met at Columbus, Ohio, on June 27 to map battle plans against any further freight rate structural changes which might put eastern and Lake Erie states at a disadvantage. Those present, representing trade groups and attorneys general, declared that the meeting was called for the purpose of fighting to protect industrial states of the North from a possible move to the South and West if "discriminatory" rate changes should be made. In this connection Atty. Gen. Jenkins said: "There is a feeling that the Interstate Commerce Commission order giving temporary rate adjustments is the opening wedge to change further the rate structure to the ultimate benefit of the southern states and to the disadvantage of Lake Erie and eastern states."

He added that the effects of the recent I. C. C. order might not be "as damaging" as first was feared, but that the real danger lay in "extension of such advantages" for the South.

L. J. Tracy Heads A. A. R.'s Accounting Division

L. J. Tracy, controller of the Union Pacific, was elected chairman of the Accounting division, Association of American Railroads, at a June 28-29 meeting of the division's general committee in Chicago. He succeeds Eric A. Leslie, vice-president and comptroller of the Canadian Pacific.

Other officers elected with Mr. Tracy are: First vice chairman, R. Parke Jones, chief finance and accounting officer, Sea-

board Air-Line; and second vice chairman, Thomas J. Tobin, comptroller of the Erie; E. R. Ford continues as secretary. The general committee meeting at which the election took place was held in lieu of the Division's annual meeting. Samuel O. Dunn, chairman of the Simmons-Boardman Publishing Corporation and editor of *Railway Age*, was the speaker at a June 28 luncheon session.

The general committee approved reports of the standing committees, and these will be published in the Division's forthcoming 59th report. The approved additions and revisions to the mandatory and recommended accounting rules and standard forms will be incorporated in the next issue of "Railway Accounting Rules," to be known as the October 1, 1945 edition.

New Container Specifications to Be Aired at Chicago

New container specifications and more stringent packing and bracing rules for egg shipments by rail will have a major place on the docket of the Consolidated Classification Committee which will meet at Chicago on July 25. The new specifications are the result of numerous tests made recently on fiberboard and wooden boxes because of continually increasing damage to egg shipments.

According to statistics released by the Association of American Railroads damage to shell eggs in carload lots in 1944 totaled \$645,968, and the total damage to less-than-carload shipments was \$11,847. This compared with \$368,528 and \$13,754 respectively in 1943. Because these figures represent only a small part of the total loss to egg shipments, including those consigned to government agencies, the Interstate Commerce Commission some time ago was asked to issue an emergency service order calling for greater shipper responsibility in packing and loading, and responded to the demand by issuing Order No. 288, the first of its kind to be drafted.

Wage Increases Demanded for M. of W. Employees

Demands for wage increases for maintenance of way and structures employees were served on the railroads last week by the Brotherhood of Maintenance of Way Employees, which is seeking uniform country-wide scales brought about by increases for all classes of the employees involved, a minimum wage of 75 cents per hour, and changes in working rules to provide paid sick leaves of five to 15 days annually, travel-time pay from assembly points to the site of a job, and expense allowances for away-from-home assignments.

The 75-cent minimum would apply to laborers of less than 306 days "cumulative" experience; the demand is for 80 cents for those with more than 306 days experience. Among other demands are those calling for foremen salaries ranging from \$210 a month for a line section foreman to \$300 for a steel bridge foreman. For mechanics the demand calls for an hourly rate of \$1.14, while \$1.10 per hour is demanded for carpenters and masons. In addition to the rules changes mentioned above, there are also demands for four hours' pay for employees who are called to a job but for

whom no work is available; and for a full day's pay for employees released in the midst of a shift.

In a statement issued last week, President E. E. Milliman of the brotherhood said that the movement was "probably the most important" in the history of his organization. Separate negotiations in the past have produced varying rates on different railroads, he went on, adding:

"For example, among bridge and building foremen, 235 different rates are paid, ranging from \$136.55 per month up to \$328.76 per month. Among section foremen there are 432 different rates, from \$118.32 to \$294.40. Bridge and building carpenters are paid 100 varied rates, from 54 cents to \$1.12 an hour; painters, 75 rates, from 57 cents to \$1.06; section men, 52 scales, from 51 to 76 cents; and extra gang men, 29 rates, from 51 to 70 cents.

"This topsy-turvy and fantastic condition must be corrected. There is no justice nor justification for all these wide differences. We insist that maintenance of way employees who do the same work with the same tools and materials in the same department of the same industry under the same operating conditions should be paid the same rates."

R. E. A. Depreciation Charges

The Railway Express Agency has been authorized by the Interstate Commerce Commission to account for depreciation charges by including in its reports to the commission the amounts of depreciation allowed by the Bureau of Internal Revenue for income tax purposes. The authorization came in an order by Commissioner Mahaffie, dated June 2 and made public on June 30.

The order is Sub-order No. E-3 in No. 19450, Depreciation Charges of Express Companies; and it vacates the previous sub-order which had prescribed depreciation rates for R. E. A., as noted in the *Railway Age* of January 31, 1942, page 311. The new arrangement is ordered effective with the accounts for August, but nothing in the order is to be construed as prohibiting R. E. A. from applying the permission retroactively to January 1.

Correction—Susquehanna Diesel Locomotive Operation

On page 1133 of the June 30 *Railway Age* the captions under the illustrations showing the freight and passenger road Diesel locomotives indicate 2,000-hp. Diesel units. Each of the three units shown is a 1,000-hp. unit; in the case of the freight train the caption should read "two 1,000-hp. Road Diesels Working in Multiple" and under the bottom picture the caption should read "1,000-hp. Road Diesel in Passenger Service."

Mass Transport of Perishables Not "Around the Corner"

A coordinated system of economical transportation that will permit each type of carrier to provide the kind of service it is especially fitted to perform, as well as one which is most advantageous for the shipper, was the prediction of Col. L. H. Brittin, director of the Edward S. Evans Transportation Research, at the Second An-

nual Air Cargo Packaging Conference, held recently in New York.

Colonel Brittin, who is a collaborator as well for the Bureau of Agricultural Economics, U. S. Department of Agriculture, and a consultant for the Bureau of Foreign and Domestic Commerce, U. S. Department of Commerce, reminded the group that "not all perishables are air candidates. One-tenth of agricultural volume is virtually all our post-war air freighters can anticipate within the next five or ten years," he said.

As Colonel Brittin sees it, before mass transportation of perishables is "around the corner" three major problems of agricultural perishables in plane loads must be solved. These, he said, include a concurrence in rates between operator and shipper, new types of cargo aircraft, and progress in reducing operating expenses and saving in ground handling time."

Retirement Board Issues One Billionth Dollar Payment

At an impressive ceremony held in its headquarters at Chicago, the U. S. Railroad Retirement Board on July 3 presented a regular monthly check to a retired railroad worker which marked the issuance of the one billionth dollar to be paid out by the board during its ten years of existence.

The presentation was made by Murray W. Latimer, chairman of the board, to William J. Miller, a retired locomotive fireman of the Chicago, Burlington & Quincy, who retired in 1936 after 52 years of service with that road.

Strike Halts Texas Electric

All freight, passenger and express service on the Texas Electric Railway, a 174-mile line extending from Waco, Tex., to Denison, via Dallas and Sherman, was halted on June 29 by a walkout of transportation, shop, line and power department employees. According to a statement by James P. Griffin, president of the company, the strike was called by the United Railroad Workers of America, a CIO union, which had just previously entered negotiations with the company for a labor contract. In addition to a contract, the employees were reported to be seeking an eight-hour day, with time and one-half for overtime, and a wage increase for motormen and bus drivers of from 75 to 95 cents an hour.

Johnson Proposes Compromise on Land-Grant Repeal

Military and naval supplies eligible for land-grant-rate deductions would be defined specifically while complete repeal of the land-grant-rate law would be delayed until 90 days after the close of the war under an amendment which Senator Johnson, Democrat of Colorado, intends to propose in the Senate in the nature of a substitute for the House-approved repealer—H. R. 694, sponsored by Representative Boren, Democrat of Oklahoma. The bill has been pending before the Senate committee on interstate commerce since it passed the House on May 4.

The Johnson amendment would define "military or naval property" as "(1) articles and materials described as arms, ammunition, and implements of war in Proc-

Flood Prevention

"During the recent rains Bear creek operated nicely and within its own banks, due mostly to the fact that no government engineers have been tinkering around trying to make the stream safe for navigation."

—Kizzie Fischer in Gilliam (Mo.) Items in Slater (Mo.) News-Rustler

lamation Numbered 2237, promulgated May 4, 1937, and (2) supplies and equipment transported along with or in connection with the movement of members of the military or naval forces." It would retain the Boren bill's repeal provisions but make them effective "ninety days after the conclusion of hostilities with Japan, as determined by a proclamation of the President of the United States or by a resolution of the Congress."

Freight Car Loading

Total freight car loadings for the week ended June 30 were not available when this issue went to press.

Loading of revenue freight for the week ended June 23 total 876,442 cars, and the summary for that week, as compiled by the Car Service Division, A. A. R., follows:

Revenue Freight Car Loading			
For the Week Ended Saturday, June 23			
District:	1945	1944	1943
Eastern	161,169	161,124	143,319
Allegheny	191,405	193,822	155,780
Poconantas	52,659	54,501	30,013
Southern	124,035	121,083	105,705
Northwestern	133,171	134,947	132,439
Central Western	140,922	139,068	122,502
Southwestern	73,061	75,766	71,172
Total Western Districts	347,154	349,781	326,113
Total All Roads	876,442	880,311	760,930
Commodities			
Grain and grain products	56,873	53,333	55,610
Live stock	13,522	14,570	11,521
Coal	171,612	174,206	68,554
Coke	13,282	15,036	10,952
Forest products	45,124	47,636	44,858
Ore	74,621	82,088	81,101
Merchandise l.c.l.	106,880	103,811	98,374
Miscellaneous	394,528	389,631	389,960
June 23	876,442	880,311	760,930
June 16	872,674	877,493	868,286
June 9	884,285	873,174	854,486
June 2	837,520	810,698	667,609
May 26	882,437	868,821	853,783

Cumulative Total,
25 Weeks. 20,368,204 20,387,991 19,479,295

In Canada.—Carloadings for the week ended June 23 totaled 74,459, as compared with 74,302 for the previous week and 72,677 for the corresponding period last year, according to the compilation of the Dominion Bureau of Statistics.

	Total Cars Loaded	Total Cars Rec'd from Connections
Total for Canada:		
June 23, 1945.....	74,459	37,341
June 24, 1944.....	72,677	38,835
Cumulative Totals for Canada:		
June 23, 1945.....	1,695,091	926,174
June 24, 1944.....	1,727,529	983,134

Representation of Employees

The American Train Dispatchers Association has supplanted the Order of Railroad Telegraphers as the Railway Labor Act representative of train dispatchers employed by the Tennessee Central, according

to results of a recent election which has been certified by the National Mediation Board. In another recent election, the Independent Clerical Association of Employees of the Hudson & Manhattan Railroad Company defeated the Brotherhood of Railway Clerks and retained its right to represent H. & M. clerical and storehouse employees.

Unions Delay Strike on Two Chicago Electric Lines

A strike which was to have gone into effect on the Chicago, Aurora & Elgin and the Chicago, North Shore & Milwaukee on July 2 was postponed pending action by the National Mediation Board in Washington, D. C. The strike, which would have been the second to tie-up the two electric roads within an eight-month period, was originally called by the Brotherhood of Railroad Trainmen and the Brotherhood of Locomotive Firemen & Enginemen and was voted as a means of forcing the two roads to grant pay increases ranging from 12¼ to 16¼ cents per hour.

The two unions called a strike last November 10, completely tying up the lines for 17 days and throwing a heavy burden on remaining transportation to and from the northern and western suburbs of Chicago which the roads serve.

Road Depreciation on Class II and III Railroads

Class II railroads must begin next January 1 to comply with the Interstate Commerce Commission's mandatory requirements on depreciation accounting for road property. This was stipulated in a June 25 order from the commission's Division 1 which at the same time postponed for another year, from January 1, 1946, to January 1, 1947, the effective date of the mandatory requirement as it affects Class III roads.

Labor's Social Security Bill Goes Over Until Fall

The House committee on interstate and foreign commerce voted in executive session July 3 to postpone until Congress returns from its summer recess consideration of H. R. 1362, the Crosser bill embodying the Railway Labor Executives' Association program for liberalizing the Railroad Retirement and Railroad Unemployment Insurance acts. The vote, reported to have been "very close," resulted in adoption of a motion calling for committee consideration of the bill "immediately after the conclusion of the recess instead of now."

Federal-Aid Airport Program Approved by House Committee

The House committee on interstate commerce, on June 30, reported favorably to the House the revised federal-aid airport bill, H. R. 3615, which had been introduced by Chairman Lea on June 28. The new bill is a rewrite of the previous Lea bill, H. R. 3170, on which hearings were recently completed.

In addition to \$3,000,000 for preliminary planning and surveys H. R. 3615 would authorize \$700,000,000 in federal appropriations of the grants-in-aid variety to be

spent over a 10-year period for projects in the states and territories. No more than \$100,000,000 would be appropriated in any one year. Projects in the states would be allocated \$650,000,000 of the total, the matching basis to be 50 per cent. The remaining \$50,000,000 is provided for territories and possessions, the matching basis to be 50 per cent also, except in the case of Alaska where the federal share may be as high as 75 per cent.

In reporting the bill the committee said that its proposed program followed recommendations made in a November 28, 1944, report of the Civil Aeronautics Administration. It also expressed its "conviction" that "a national airport plan of this type must be carried out if the United States is to retain its world leadership in aviation, civil and military." Moreover, the committee found "ample precedents" for federal aid for airports "in the aid furnished canals and pikes in the early days of the Republic and aid subsequently given to highways, rivers and harbors, and the railroads from 1845 to 1870."

The report further noted that a program such as that contemplated in the bill had been supported at the hearings by various organizations including the Chamber of Commerce of the United States. As noted in the *Railway Age* of June 2, page 993, it was opposed by the Association of American Railroads whose general counsel, J. M. Souby, disputed contentions to the effect that the railroad land grants provided a precedent for government aids to air transportation.

May Earnings in Canada

The two principal Canadian railways reported May earnings and expenses as follows:

Canadian National			
May	1945	Increase	
Gross	\$37,617,000	\$1,248,000	
Expenses	30,019,000	788,000	
*Operating net	\$7,598,000	\$460,000	
5 Months			
Gross	174,212,000	1,978,000†	
Expenses	144,162,000	520,000	
*Operating net	\$30,050,000	\$2,498,000†	
Canadian Pacific			
May			
Gross	\$26,622,457	\$694,192†	
Expenses	23,085,508	239,218	
*Net	\$3,536,949	\$933,410†	
5 Months			
Gross	\$126,654,922	\$1,263,147†	
Expenses	114,087,601	4,311,490	
*Net	\$12,567,321	\$5,574,637†	

* Net as shown in this tabulation, for the C. N. R., is equivalent to "Net Operating Revenue" in U. S. accounting terminology, while the net shown for the C. P. R. corresponds to "Net Railway Operating Income" in U. S. terms.
† Decrease.

See Third Quarter Loadings 1.1 Per Cent Under '44

Freight car loadings in the third quarter of 1945 are expected to be slightly below the same quarter of 1944, according to estimates compiled by the 13 Shippers' Advisory Boards.

On the basis of those estimates, loadings for the 28 principal commodities will be 9,864,374 cars in the third quarter, compared with 9,970,452 actual car loadings for the same commodities in the corresponding period last year, or a decrease of 1.1

per cent. Four of the 13 boards estimate an increase in carloadings for the third quarter but nine estimate decreases.

The accompanying tabulation shows actual loadings for each district in the third quarter of 1944, the estimated loadings for the third quarter of 1945, and the percentage of increase or decrease.

Shippers' Advisory Boards	Actual Loadings Third Quarter 1944	Estimated Loadings Third Quarter 1945	Per Cent Increase
New England	184,106	179,135	2.7-d
Atlantic States	1,070,772	1,087,020	1.5
Allegheny	1,250,245	1,235,974	1.2-d
Ohio Valley	1,204,439	1,156,240	4.0-d
Southeast	1,028,769	975,259	5.2-d
Great Lakes	658,119	642,836	2.3-d
Central Western	363,189	376,671	3.7
Mid-West	1,280,292	1,285,019	0.4
Northwest	864,418	862,414	0.2-d
Trans-Missouri-Kans.	512,720	508,336	0.9-d
Southwest	737,648	720,853	2.3-d
Pacific Coast	489,989	510,961	4.3
Pacific Northwest	325,746	323,656	0.7-d

The 13 boards expect an increase in the third quarter of 1945 compared with the same period one year ago, in the loading of 15 of the commodities listed, but a decrease in 13. Among those showing the greatest increases are the following:

* Potatoes, 22.1 per cent; agricultural implements and vehicles other than automobiles, 10.8 per cent; grain, 10.4 per cent; cottonseed and products except oil, 9.5 per cent; flour, meal and other mill products, 8.7 per cent; brick and clay products, 6.2 per cent; citrus fruits, 5.4 per cent; fertilizers of all kinds, 5.2 per cent; salt, 4.6 per cent; cotton, 4.3 per cent; paper, paper-board and prepared roofing, 3.9 per cent, and manufactures and miscellaneous, 2 per cent.

Commodities for which decreases are estimated include the following: Sugar, syrup and molasses, 13.7 per cent; hay, straw and alfalfa, 10.4 per cent; petroleum and petroleum products, 8.2 per cent; machinery and boilers, 8 per cent; livestock, 6.8 per cent; gravel, sand and stone, 5.7 per cent; ore, 5 per cent; lumber and forest products, 4.3 per cent and coal and coke, 2.1 per cent.

Emergency Board on Erie

President Truman on June 30 created an emergency board to investigate a dispute which had brought a strike threat to the Erie. The employees involved are represented by the Brotherhood of Railroad

I. C. C. an Adjunct to Democratic Party?

In the Rocky Mountain News (Denver) of June 19, the Democratic State Central Committee published an advertisement in which it was stated that:

"Reduced freight rates on slaughtered meat shipments out of Denver to the Pacific Coast, announced last week by the Interstate Commerce Commission, are a direct result of an enlightened, progressive DEMOCRATIC administration in Washington. Other forward-looking freight-rate measures, devised to promote industrial and agricultural prosperity in Colorado, are being undertaken by your National Administration to aid You."

Trainmen and the controversy involves working rules and the application of National Railroad Adjustment Board awards (see *Railway Age* of June 16, page 1079).

Members of the board are Leif Erickson, former justice of the Supreme Court of Montana; Ridgely P. Melvin, justice of the Maryland Court of Appeals; and Robert G. Simmons, chief justice of the Supreme Court of Nebraska.

Agree to Arbitrate O. R. T. Six-Day-Week Demand

Representatives of Southeastern and Western roads and the Order of Railroad Telegraphers have agreed to submit to arbitration the latter's demand for a six-day week for telegraphers with time and one-half pay for the seventh day. Arbitration was proposed by the National Mediation Board when mediation proceedings broke down recently. N.M.B. has scheduled a meeting at Chicago on July 11 to draw up the formal arbitration agreement.

Wheeler Bill to Curb Black Market Ticket Sales

Chairman Wheeler of the Senate committee on interstate commerce has introduced S.1213 to make it unlawful for any person to demand or receive for tickets covering travel accommodations on rail or motor carriers any amount in excess of amounts charged by the carriers for such tickets. The maximum penalty for a violation would be a fine of \$1,000 or imprisonment for one year, or both.

The bill contains a provision stipulating that its enactment would not preclude "legitimate service charges of travel agencies, hotels, and similar concerns for booking accommodations, and obtaining and delivering tickets."

Illinois Central Revises Some Passenger Train Schedules

As a means of facilitating war-time travel and providing more convenient service, the Illinois Central has revised the operating schedules of some of its major passenger trains, the changes taking effect July 1.

The running time of the Chicago-St. Louis "Daylight" is being reduced 40 minutes southbound and 30 minutes northbound, with later departure and earlier arrival. The train leaves Chicago at 11:20 a. m., 35 minutes later than previously, and arrives in St. Louis at 5:20 p. m., five minutes earlier, providing a more comfortable connection with trains for Texas, the Southwest and Mexico. Northbound, the train leaves St. Louis at 12:05 p. m., 20 minutes later, allowing more time for connections from Texas points, and arrives in Chicago at 6:05 p. m., 10 minutes earlier.

The new schedules on the road's western lines are faster. Fifteen minutes have been cut from the running time of the "Land O' Corn" between Chicago and Waterloo, Iowa. The train leaves Waterloo at 6:45 a. m. and arrives in Chicago at 12:35 p. m. Westbound, the train leaves Chicago at 3:30 p. m., and arrives in Waterloo at 9:45 p. m. instead of 11:45 p. m. The earlier departure shortens the layover in Chicago for passengers arriving from the East.

The schedule of the "Mississippi" between Freeport, Ill., and Chicago also has been

When "Swords are beaten into Plowshares"



TO handle its tremendous war traffic the Nickel Plate is using fifty-five of these Lima-built 2-8-4 steam locomotives, placed in service from 1941 to 1944.

When ultimate victory enables the Nation's industries to reconvert to peacetime production, this powerful fleet will be ready to meet exacting demands for swift and economical transportation.

LIMA LOCOMOTIVE WORKS



INCORPORATED, LIMA, OHIO

shortened 15 minutes, with later departures from both Chicago and Freeport. The new departure from Chicago is 9:25 a. m., providing a connection with the "Panama Limited" from New Orleans and trains from the East. The departure time from Freeport is 1:15 p. m.

Thirty minutes have been cut from the running time of the "Iowan" from Sioux City, Iowa, to Chicago. The train leaves Sioux City at 7:20 a. m., one hour later than heretofore, and arrives at Chicago at 9:45 p. m., 30 minutes later. The departure of the eastbound "Hawkeye" from Rockford for Chicago is at 6:45 a. m., 10 minutes later.

The departure of the Illinois Central's "Seminole" from Chicago for Florida has been changed from 9:30 to 10:25 p. m. to provide more comfortable connections for passengers arriving in Chicago on evening trains from North and West. The train's running time has been reduced 55 minutes, with no change in arrival times at Alabama, Georgia and Florida points.

The arrival at Louisville, Ky., of the northbound "Creole" from New Orleans and Memphis has been advanced 20 minutes to 5:20 p. m. to make important additional connections with eastern trains to Washington, Baltimore, Philadelphia and New York.

The departure of No. 204 from Shreveport, La., eastbound has been advanced to 6:45 a. m. to permit arrival at Jackson, Miss., at 1:30 p. m. to connect with the northbound New Orleans-Chicago "Louisiane."

Would Require Write-down of Surplus in Merger Accounting

Consolidated earned surplus of the Kansas City Southern system would be reduced by \$1,501,574 if the Interstate Commerce Commission adopts the recommended findings of Examiner Homer H. Kirby's proposed report on the matter of proper accounting for the merger into K. C. S. of the Texarkana & Fort Smith properties. The proposed report is in the No. 29223 investigation instituted by the commission after the K. C. S. had refused to comply with directions of the Bureau of Accounts, which the examiner would have the commission uphold.

The conflict arose over the K. C. S. proposal to take over intact and absorb into its accounts the book values as shown on Texarkana's books, and the contention of the Bureau of Accounts that applicable accounting rules require that only the original cost of the Texarkana properties at the time they were first dedicated to public use be included in the K. C. S. property investment account. At the time of the merger the Texarkana's books showed a total investment of \$12,738,775 with a credit balance of \$1,273,448 in the surplus account. As the examiner put it, the \$12,738,775, though "\$1,657,548 in excess of the original cost of the property," would, under the K. C. S. proposal, be charged to investment account 701, Road and Equipment Property.

This would come about because the K. C. S. through acquisition of stock since transaction would not have to be cleared through account 702½A, Acquisition Adjustment. The road contended that the

provisions of that account were designed by the commission to apply solely to property in which the acquiring carrier had no previous beneficial interest, i. e., it did not apply to the present situation wherein the Texarkana, since the date of its construction, has been an integral and essential part of the K. C. S. system's main line and has been beneficially owned by the K. C. S. through acquisition of stock since 1900. This contention was rejected by the examiner who found nothing in the rules of account 702½A "to justify differentiation in accounting as between mergers of affiliated companies and those of non-affiliated companies."

Thus the examiner went along with the Bureau of Accounts proposal which calls for clearance of the transaction through account 702½ with the Texarkana surplus eliminated. That elimination brings down the Texarkana property investment figure from the aforementioned \$12,738,775 to \$11,081,227. To arrive at the latter figure as the consideration given by K. C. S. for Texarkana properties, the bureau valued at par the \$10,285,000 in Texarkana bonds assumed by K. C. S. and the \$100,000 in canceled stock; but it wrote \$228,126 off the face value of advances canceled by K. C. S. This \$228,126 "loss" sustained by K. C. S. would be charged against its own surplus. And that charge, together with the elimination of the Texarkana's surplus of \$1,273,448, would reduce the system's consolidated surplus by \$1,509,574, as noted above.

The K. C. S. expressed concern that this accounting might injure its credit and thus have an adverse effect on its refunding program. The examiner thought such fears were "without substantial foundation," saying at the same time that the credit question "is not relevant to the interpretation of the accounting rules under consideration."

I. C. C. Service Orders

As a result of delays at Mexican border ports of entry to cars loaded with freight on order bills of lading, the Interstate Commerce Commission has prohibited the shipment of commodities in carloads from points in the United States to points in Mexico unless such shipments are covered by straight bills of lading. This requirement becomes effective July 10, as provided by Service Order No. 327, the expiration date of which is February 28, 1946.

Punitive demurrage charges on covered hopper cars, when held for loading or unloading beyond tariff free time, have been prescribed by Service Order No. 328, effective July 10 to September 30, unless otherwise ordered. The charge on cars not subject to average agreements is \$2.20 per day for the first two days after free time, \$5.50 for the third day, \$11 for the fourth day, and \$16.50 for each day thereafter. The same charges are applicable to cars included in an average agreement, with the provision that the \$2.20 per day charges only may be offset by credits. The order affects all covered hopper cars with the Official Railway Equipment Register "LO" designation, except those loaded or to be loaded with carbon black and those held at or short of ports when the lading is

consigned or reconsigned for export, coastwise or intercoastal movement.

Service Order No. 304, requiring permits for the shipment of grain in carloads out of specified areas, has been suspended until further order by Amendment No. 4, effective July 2.

Effective June 30 through July 31, Service Order No. 323 prohibits preicing of refrigerator cars prior to complete loading with citrus fruit at any point in Arizona or California, unless authorized by I. C. C. permit. This order is expected to cut down switching movements and thus to increase the utilization of cars, it was indicated.

Requirements to be complied with in establishing freight charges where part of the contents of an overloaded car are transferred to another car, both then being forwarded without other freight therein, established by Service Order No. 68 as amended, have been modified and restated in Amendment No. 8 to that order, effective July 15 to January 31, 1946. On the original car, charges are to be based on the actual weight left in the car, subject to tariff minimums. Minima are prescribed to apply to the car loaded with the excess freight. The order is not applicable to livestock or, within limitations, to freight transhipped from ocean vessels directly or via barge.

The prohibition against shipping Irish potatoes without War Food Administration permits, applied by Sixth Revised Service Order No. 259, remains applicable only to one county in California and two counties in Virginia, under Amendment No. 7 thereto, effective July 4 through July 31, unless otherwise ordered.

An embargo on the loading of any freight car with citrus fruit, onions or potatoes at any point in Arizona or California was effective as to both interstate and intrastate traffic from 12:01 a. m. July 1 to 7:00 a. m. July 4, under Service Order No. 326. The order was issued, it was stated, as a result of an accumulation of an excessive number of refrigerator cars so loaded.

Passenger Derailment Caused By Loosened Rail

According to the report of an investigation by the Interstate Commerce Commission, under the supervision of Commissioner Patterson, a derailment on the Atlantic Coast Line near Kissimmee, Fla., on May 31 was caused by "insecure condition of the track." There were no fatalities, but 36 passengers and 7 employees were injured when the locomotive, the first seven cars and the front truck of the eighth car of No. 91, the 13-car southbound "West Coast Champion," were derailed while moving at 57 m.p.h.

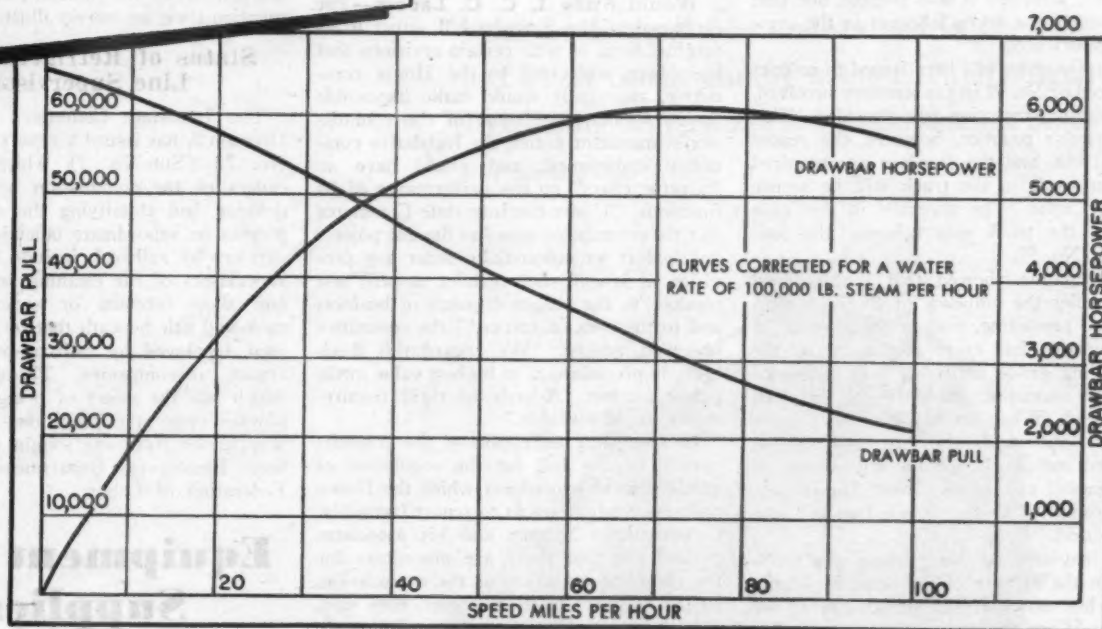
The accident occurred on the road's main line from Jacksonville to Tampa on tangent single track where trains were operated by timetable and train orders. The grade is 0.55 per cent descending southbound. The track structure consists of 100-lb. rail laid in 1928 on an average of 22 ties per rail length, fully tie-plated, single spiked, provided with 4-hole angle bars, and ballasted with crushed rock about 6 in. deep. Rail anchors are not used. The authorized speed for this train was 60 m.p.h. The

DRAWBAR HORSEPOWER

The Franklin System of Steam Distribution

applied to

**The Pennsylvania Railroad's
T-1 Locomotives**



"The T-1 locomotive developed a maximum of 6100 drawbar horsepower, which is 46 percent more than that of any other locomotive ever tested on the (Altoona) plant. * * *

"The T-1 locomotive was designed to haul a trailing load of 880 tons on level tangent track at a speed of 100 m.p.h. This requires a horsepower at the rear of the tender of 2980. If wind and engine and tender truck resistances are deducted from the drawbar pull shown in the graph, it is found that the T-1 locomotive develops 4100 horsepower at the rear of the tender at 100 m.p.h., which is about 38% greater than necessary to meet the requirements."

Quotation from paper by Ralph P. Johnson, Chief Engineer of the Baldwin Locomotive Works, read before the New York Railroad Club, May 17, 1945.



FRANKLIN RAILWAY SUPPLY COMPANY, INC.

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weather was clear when the accident occurred at about 3:03 p.m., and the maximum temperature for the day in that locality was 101 deg.

A crew of a track force was engaged in replacing ties, raising the track and resurfacing ballast in the vicinity of the derailment, and within about 350 ft. of that point there were 49 ties from which spikes had been removed before the train arrived, 4 being at that immediate locality. While the roadmaster said instructions to track foremen provided that spikes should be removed from only one tie at a time under such circumstances, the foreman in charge of the crew said it was his practice to remove spikes from two ties at a time. He was not aware that more spikes had been removed, although it was pointed out that only one of the seven laborers in the crew was experienced.

No train order had been issued to restrict the speed of No. 91 in the territory involved, and no flag protection was provided. This was regular practice, however, the report pointed out, and the foremen are required to plan work so the track will be secure for any train. The foreman in this case thought the track was safe for the passage of No. 91.

Investigation showed that the loosened rails, under the influence of the high temperature prevailing, and in the absence of rail anchors, had crept southward on the descending grade until they met resistance upon an ascending grade several hundred feet ahead. When the rail could not move farther southward, the east rail shifted outward sufficiently for the left wheels of the forward unit of the 3-unit Diesel-electric locomotive to drop inside that rail, the report said.

The engineer of No. 91 saw the track crew in the vicinity of the point of derailment, but no warning signals were observed. When the engine passed over that point an unusual movement was detected, and the engineer saw that the east rail was deflected 4 to 6 in. to the outside immediately ahead. He moved the brake valve to emergency position, but the locomotive units left the track, stopping on their left sides about 558 ft. beyond the point of derailment. The derailed cars stopped in various positions across the track, the sixth and seventh cars remaining upright. The locomotive and the derailed cars were badly damaged. A baggage-mail car, a passenger-baggage car, and five coaches were derailed.

The report quoted without comment special rules for section foremen, one of which authorized them to use the track when making repairs within 15 min. of the time of passenger trains, "but invariably under protection of stop signals."

Administrative Procedure Bills Draw I. C. C. Fire

The Interstate Commerce Commission has urged the House judiciary committee to exclude it from the provisions of the bill (H. R. 1203) introduced by the committee's chairman, Representative Summers, Democrat of Texas, at the opening of the present session of Congress, to bring about modifications in the administrative methods and procedures of government agencies. A similar bill (S. 7) was introduced in the Senate

by Senator McCarran, Democrat of Nevada, chairman of that body's judiciary committee.

In addition to submitting written comment on the Summers bill by the commission's legislative committee through Commissioner Splawn, the committee chairman, the commission expressed its views through the personal testimony of its senior member, Commissioner Aitchison. The regular legislative committee of Commissioners Splawn and Mahaffie and Chairman Rogers was increased for the consideration of bills pertaining to administrative procedure by the addition of Commissioners Aitchison and Porter, who, with Mr. Mahaffie, constitute the commission's committee on rules and reports.

Would Stifle I. C. C. Labors—The enactment of the Summers bill, either in its original form or with certain revisions that have been suggested to the House committee, apparently would make impossible the performance of some of the commission's important duties, the legislative committee commented, and would have an "adverse effect" on the performance of its functions. "Under the Interstate Commerce Act the commission now has flexible powers 'to conduct its proceedings under any provision of law in such manner as will best conduce to the proper dispatch of business and to the ends of justice,'" the committee observed, adding: "We regard this flexibility in procedure as of highest value in the public interest. A code of rigid requirements would forbid it."

In requesting exception of the commission from any bill for the regulation of administrative procedures which the House committee might see fit to report favorably, Commissioner Splawn and his associates pointed out that there are precedents for the complete exclusion of the commission. In the 58 years of its existence, they said, the commission "has given continuing study to its procedure, as a result of which it has devised and put into effect a number of procedural methods which are well understood and which have, we believe, the support of those who have dealings with this commission."

After explaining that the commission's current general rules of practice have been in effect about three years without any weakness developing that required amendments, the statement went on to say, "If the lawfulness of these procedural methods must now be judged by a code not designed simply to supplement the jurisdictional requirements of the Interstate Commerce Act, but to cover as a blanket all agencies of the government having administrative powers, many of which differ substantially in nature and purpose from those committed to this commission, inevitably there will be a long period of uncertainty and confusion while the effect and meaning of numerous statutory provisions susceptible of varying interpretation are being judicially ascertained."

Might Render I. C. C. Impotent—If there is anything in the bill that would better the commission's practice, "we would be swift to adopt it," the committee remarked. "Throughout its history the commission has striven to obtain the broadest and most accurate possible factual basis for its official acts, generally through the quasi-judicial device of a hearing and argument

on issues of fact presented, even when by statute a hearing is not mandatory. Our experience has not indicated the need for a more elaborate body of rules to insure fairness. We see a danger in a code which would center attention on matters of form and detract from the important objective of reaching a sound conclusion on facts."

Concluding its statement, the commission's committee said, "A recital of the obscurities, ambiguities, and impractical requirements of this bill would make too long a letter. One feature, the scope of review in enforcement proceedings, seemingly would put the commission back where it was in the impotent stage preceding the Hepburn act of 1906. The review provisions run counter to the ideas which are being worked out by the judicial conference. We mention these as merely illustrative."

Status of Refrigerator Car Line Supervisors

The Interstate Commerce Commission, Division 3, has issued a report in Ex Parte No. 72 (Sub-No. 1) which finds that orders of the commission now in effect, defining and classifying the work of employees or subordinate officials of common carriers by railroad, include the work of supervisors of car cleaning and car repair and shop foremen or supervisors with rank and title beneath that of general foremen, employed by railroad-owned refrigerator car companies. The determination which has the effect of bringing the employees under the provisions of the Railway Labor Act, was sought by the Railway Employees Department, American Federation of Labor.

Equipment and Supplies

LOCOMOTIVES

The MINNEAPOLIS & ST. LOUIS has authorized the purchase of four 1,000-hp. Diesel-electric road switching locomotives and one 1,350-hp. Diesel engine.

The NORTHERN PACIFIC has ordered eight Diesel-electric locomotives from the Baldwin Locomotive Works and one from the American Locomotive Company with delivery to be made in August and September.

FREIGHT CARS

The WESTERN MARYLAND is in the market for 40 70-ton covered hopper cement cars.

The CHICAGO, ROCK ISLAND & PACIFIC is inquiring for 250 50½-ft. auto box cars of 50 tons' capacity and 750 40½-ft. auto box cars of 50 tons' capacity.

Construction

SOUTHERN.—This railway has authorized the construction by the company's own forces of a 75-ft. track scale at Birmingham, Ala., at estimated cost of \$42,860.

To speed war traffic

● Thanks to the ability of the railroads to meet emergencies, oil has been speeded in huge volume so that the vital needs of the armed forces have been supplied.

To handle this tremendous traffic, perfect operating condition is a first essential for the locomotives, called upon for every possible pound of power.

For such operating efficiency a complete brick arch should be maintained in the fire-box at all times, and by using Security Arch Brick long service and low maintenance costs are assured.



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Supply Trade

Budd Leases Government Plant To Build Passenger Cars

The Edward G. Budd Manufacturing Company has leased, and arranged to transfer its railway passenger car manufacturing division to a government-owned plant at Bustleton, Pa., in the Philadelphia area. The property is now operated by the Budd Company under a Reconstruction Finance Corporation war plant facilities lease, sponsored by the Navy Department.

Terms of the lease, which runs for five years, provide that 77 per cent of the space ultimately will be used for car building. A substantial portion of this is presently used in the manufacture of munitions. The company has indicated that it may utilize the remaining 23 per cent, which now is used as a disposal center for surplus property, once production is fully under way on non-war contracts. The war plant lease is reported to be the largest negotiated to date for the purpose of providing space for peace-time production while work is going ahead on war contracts.

The transaction was consummated in keeping with a policy of maintaining maximum employment and securing minimum production loss while war plants are being re-tooled, according to the R. F. C., and will enable the company to convert operation of the plant from war work to civilian production as rapidly as its military commitments permit, by enabling it to "tool up" a portion of the plant while work proceeds in the remainder on war contracts. Construction of the first railway cars is expected to get under way in the fall.

The new plant comprises a main assembly and manufacturing building covering 24½-acres and an administration building and power plant, with railway sidings running directly into the main building. The manufacturing building provides six main bays, each 1,800 ft. long, permitting a modern plant layout with ample room for assembling 80 cars in four lines at one time. Adequate plant capacity also is available for housing sub-assembly lines and parts fabricating facilities adjoining the main assembly lines.

Commenting on the transfer, Edward G. Budd, president of the company, said: "This new plant equips us properly for the new era of railway passenger car manufacturing which will get under way once the requirements of the armed services are met and man-power becomes available to resume where we left off when the war came. We are confident we now have the most modern railway passenger car manufacturing facilities in the world, which puts us in position to undertake profitably, economically, and expeditiously the extensive backlog of business built up out of the imperative requirements of the railroads since the desire to devote all our efforts to the manufacture of munitions forced us to abandon the building of railway cars."

The administration building contains 45,000 sq. ft. of floor space on two floors and houses administrative offices, personnel offices, medical department, restaurant, and central telephone exchange. Electric

power current for the plant, obtained at 66,000 volts, is stepped down at the main sub-station to 13,200 volts and transmitted at this voltage to indoor sub-stations from which it is distributed at 440 volts. Feeders are carried in underground ducts. There are power stands in each column of the two main bays, and a tunnel extends almost the entire length of each bay. Services are drawn from these tunnels by movable stands which straddle the tunnels. Each stand is equipped with compressed air outlets, water supply, welding power and 440-volt, 110-volt and high-cycle power.

Mr. Budd pointed out that the capacity of the new plant would permit the building in a matter of months of as many streamlined trains as Budd built from the inception of the high-speed streamlined era in 1934 to the time in 1942 when railway passenger car building was discontinued.

Gus H. Sample has been appointed technical assistant to the director of engineering, Diesel division of the **American Locomotive Company** with headquarters at Schenectady, N. Y. Mr. Sample was graduated from Washington University with a degree in mechanical engineering and is a member of the advisory board of that



Gus H. Sample

university's Engineering school. He was draftsman and designing engineer with the Busch Sulzer Company at St. Louis, Mo., from 1930 to 1932 and installed and operated Diesel engines on large dredging operations from 1932 to 1934. He was sent to the Fairbanks, Morse & Co. Diesel engine plant in Beloit, Wis., in December, 1934, working for the U. S. Navy bureau of engineering as senior inspector, and later as associate mechanical engineer in charge of Navy inspectors in this plant. He resigned from the bureau of engineering in 1937 and returned to the Busch Sulzer organization in St. Louis as executive engineer in charge of engineering in connection with installations for the Maritime Commission and various naval vessels. He also was assistant to the general manager of the plant with jurisdiction over all inspection and engineering, which position he held until his present appointment.

Auguste G. Pratt, president of the Babcock & Wilcox Co. of New York, has been elected chairman of the executive committee of the board of trustees of **Stevens Institute of Technology** to succeed the

late Robert C. Post. Mr. Pratt has been a member of the board of trustees since April, 1936.

Roy H. Weber, San Francisco, Calif., has been appointed west coast representative of the **Davis Brake Beam Company**.

The Bendix Radio division of the **Bendix Aviation Corporation** has been awarded its fourth Army-Navy "E" for war production achievement.

Gordon L. Hiner has been appointed sales representative in the New York district for the **Railroad Products Company** of Cincinnati, Ohio.

Lester H. Roemer, assistant sales manager of the **R. K. LeBlond Machine Tool Company**, Cincinnati, Ohio, has been appointed New York district manager for the company.

The **Graybar Electric Company** has been appointed exclusive distributor of the **Wilson Welder & Metals Co.'s** brand of electrodes in areas served by Graybar's Cincinnati and Cleveland, Ohio, and Pittsburgh, Pa., offices.

Thomas O. Cole has been appointed manager of the Hartford, Conn., branch office of the **General Fireproofing Company** of Youngstown, Ohio, to succeed the late J. B. Baylis. Mr. Cole has been General Fireproofing district manager covering New York and adjacent territory since January, 1939.

The **Kenworth Motor Truck Corporation** will begin construction immediately of a modern truck and bus manufacturing plant in Renton, Wash., on property owned by the **Pacific Car & Foundry Co.** The factory, estimated to cost between \$250,000 and \$300,000, will provide 200,000 sq. ft. of floor area which will be devoted exclusively to the manufacture of Kenworth heavy duty trucks and buses. War Production Board approval of the construction has been obtained.

When the new plant is completed, Kenworth will move its operations from Seattle, Wash., to Renton, where integrated production will be established in conjunction with the machine shop and foundry of the **Pacific Car & Foundry Co.**

In addition to the building in Renton, Kenworth is planning to establish a large factory distribution branch in downtown Seattle to handle service, parts and new truck sales in that area. Kenworth's dealer representation in principal western cities and the Hawaiian Islands will be further enlarged to handle truck sales and service, but bus and coach sales will be undertaken by a special department devoted to the promotion of the market for intercity, city and school buses.

The **Pacific Car & Foundry Co.** acquired a controlling interest in Kenworth in January and Paul Pigott, president of **Pacific Car**, was elected president of Kenworth. Other officers include John Wolmstrom, general manager; Ferdinand Schmitz, president and general manager of the **Everett Pacific Shipbuilding & Dry Dock Co.**, vice-president; Vernon A. Smith, who continues in his former position as vice-president and sales manager; John Cannon, secretary-treasurer, now on military leave; and Ken-

Dave Boone Says:

It's about time somebody said a few good words for the American railroads and the great job they are doing in this war. They've always been considered a fair target for squawks. When a man couldn't think of anything else to grouch about he would take a slam at the railroads.

But today he can only marvel at the wonderful job the railroad men from top to bottom are doing. Under the terrific handicap of rapidly deteriorating equipment, incredible demands on freight and passenger services and a "rush order" on all jobs, they are meeting the tasks with half the confusion and excitement shown in many other industries.

It seems to me that the average trainman is a standout among American workers as a fellow who is still polite, efficient and decent to the customer.

The railroad men as a group are as tired and harassed as any bunch in America, but, with few exceptions, they still manage to smile.

The "Doncha know there's a war on?" attitude is almost completely missing in their make-up.

NEW YORK SUN
May 17, 1945

THE SUPERHEATER COMPANY

Representative of AMERICAN THROTTLE COMPANY, INC.
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122 S. Michigan Ave., CHICAGO
Montreal, Canada, THE SUPERHEATER COMPANY, LTD.



Superheaters • Superheater Pyrometers • Exhaust Steam Injectors • Steam Dryers • Feedwater Heaters • American Throttles

neth Worthington and F. D. Pitts, assistant secretary-treasurers.

OBITUARY

John B. Strauch, who was chairman of the board of the National Bearing Metals Corporation, until last January when the firm became the National Bearing Division of the American Brake Shoe Company, died at St. Louis, Mo., on June 22.

H. J. Tierney, president of the H. J. Tierney Supply Co., St. Louis, Mo., died on June 10. Mr. Tierney was born at Junction City, Kan., on July 14, 1871, and entered railway service with the Missouri-Kansas-Texas on March 4, 1887, as a machinist, later serving as chief draftsman. Some time later he was promoted to mechanical engineer and to superintendent of the car department. In 1918, Mr. Tierney entered the railway supply business which he operated up to the time of his passing.

Financial

ATCHISON, TOPEKA & SANTA FE.—Bond Redemption Authorized.—The board of directors of the Santa Fe has ordered the redemption on December 1, 1945, of its three outstanding issues of convertible bonds, being the issues of 1905 and 1909 due in 1955, and the issue of 1910, due in 1960. The three issues aggregate \$7,977,000, and with the calling of these bonds the Santa Fe redeems all of its indebtedness excepting its noncallable general and adjustment mortgage 4's of 1995.

BALTIMORE & OHIO.—Adjustment Plan.—On July 2, the Baltimore & Ohio filed a petition to the United States district court for the district of Maryland for approval and confirmation of its adjustment plan. Preliminary hearing is scheduled for July 10.

CENTRAL OF NEW JERSEY.—Annual Report.—The Jersey Central lost nearly \$6,000,000 on its passenger traffic in 1944 despite heavy troop movements and dense civilian travel which enabled most railroads to show profits on their passenger operations, according to Shelton Pitney and Walter P. Gardner, trustees. The trustees note that, while most of the Jersey Central's passenger train-miles are operated to carry suburban riders, the revenue from this service was only about one-third of total passenger revenues last year.

The report pointed out that "the most important single problem which must be solved before the Jersey Central can emerge from bankruptcy is its New Jersey tax troubles. All New Jersey taxes have been paid currently since 1940, and about 70 per cent were paid from 1932 through 1940. Because of the unpaid amount during the depression years, the state at the end of 1944 claimed an estimated maximum of \$29,297,702 in principal and 12 per cent annual interest penalties, while the trustees believe the railroad's total liability does not exceed \$11,363,645, and may be less."

The Jersey Central previously reported 1944 net income of \$217,932 on gross rev-

enue of \$60,796,386, compared with \$712,860 net income on record business of \$62,974,869 in 1943. A decline of nearly \$2,425,000 in petroleum traffic, as the emergency railroad movement passed its peak, accounted for "slightly more than the total decrease in the Jersey Central's revenues."

CHICAGO, MILWAUKEE, ST. PAUL & PACIFIC.—Promissory Notes.—Division 4 of the Interstate Commerce Commission has authorized this road to issue \$5,315,000 of promissory notes in evidence, but not in payment, of the unpaid portion of the cost of the following equipment, the total cost of which is estimated as \$7,108,535. From the Electro-Motive division of General Motors Corporation, 5 5,400-hp. diesel-electric freight locomotives and 5 4,000-hp. diesel-electric passenger locomotives; from Fairbanks, Morse & Company, 10 1,000-hp. diesel-electric switching locomotives; from the Baldwin Locomotive Works, 4 1,000-hp. diesel-electric switching locomotives; from the American Locomotive Company, 6 1,000-hp. diesel-electric switching locomotives; and from company shops 500 50-ton flat cars and 25 caboose cars. (Previous item in *Railway Age* of June 16, 1945, page 1082.) The notes have been sold on an 8-year basis with a 1.6 per cent annual interest rate to the Seattle-First National Bank of Seattle, Wash.

ERIE.—Promissory Notes.—This road has applied to the Interstate Commerce Commission for authority to issue promissory notes in the amount of \$1,320,000 to finance in part the acquisition of 500 box cars at a total cost of \$1,680,000. The notes would mature in 40 quarterly installments beginning December 1. Bids have been received, subject to commission approval of the transaction; and the most favorable bid, submitted by a group headed by the National City Bank of Cleveland, named an interest rate of 1.64 per cent.

GREAT NORTHERN.—Trackage Agreements.—This company has applied for Interstate Commerce Commission approval of arrangements for its continuance of the use of the Northern Pacific main line from Tilden Junction, Minn., to Red Lake Falls, 10.7 miles, of the Northern Pacific main line from Laurel, Mont., to Billings, 17.75 miles, of certain terminal facilities of the Northern Pacific and of the Chicago, Burlington & Quincy at Billings, and of a spur line at Billings jointly owned by the latter-named roads.

LOUISVILLE & NASHVILLE.—Awarded Bonds.—On July 2 the Louisville & Nashville awarded \$53,119,000 of first and refunding 2½ per cent bonds, series G, due April 1, 2003, to a banking group headed by Morgan Stanley & Co. on a bid of 97.669. The bonds were reoffered for sale to the public at 98½ and accrued interest, to yield 2.93 per cent to maturity. (Previous item in *Railway Age* of June 23, page 1124.)

MINNEAPOLIS & ST. LOUIS.—Promissory Note.—Division 4 of the Interstate Commerce Commission has authorized this company to issue a \$1,439,220 promissory note in evidence, but not in payment, of the unpaid portion of the cost of 500 50-ton box cars purchased from the General American

Transportation Company under a conditional sale agreement. The total cost of this equipment is \$1,799,025. The note was sold on a 1.735 per cent interest basis jointly to the Northwestern National Bank of Minneapolis, First National Bank of Minneapolis, and First National Bank of St. Paul.

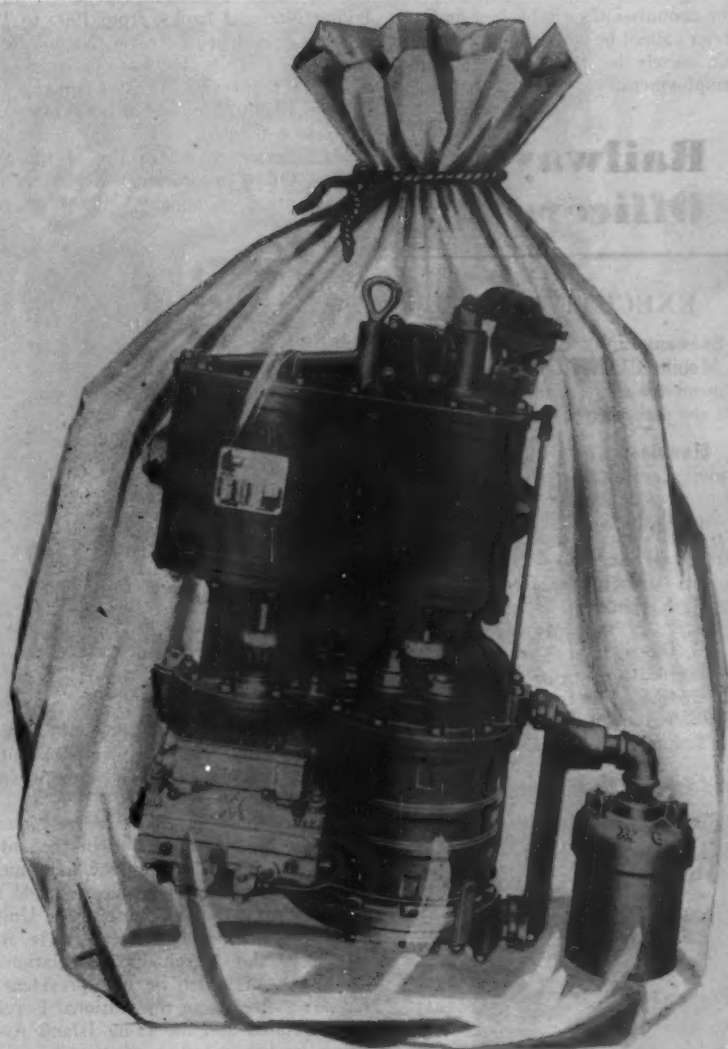
NORFOLK & SOUTHERN.—R. F. C. Sells Securities.—The Federal loan administrator has announced the sale by the Reconstruction Finance Corporation to A. M. Kidder & Company of New York of \$380,000 of series B and \$682,000 of series D 3 per cent equipment trust certificates issued by this road on a 2.15 per cent interest basis, the price being a little over 104 and the premium to the R. F. C. \$43,023.

PENNSYLVANIA.—New Director.—Isaac W. Roberts has been elected a director of the Pennsylvania to succeed Thomas Newhall who has resigned. Mr. Roberts is president and a member of the board of managers of the Philadelphia Saving Fund Society and a director of the Pennsylvania Company for Insurances on Lives and Granting Annuities, the Bell Telephone Company of Pennsylvania, the Philadelphia Contributionship for Insurance on Houses for Loss by Fire, and the Pennsylvania Fire Insurance Company. He is also president of the National Association of Mutual Savings Banks.

PENNSYLVANIA.—Equipment Certificates Purchase Bids.—The Pennsylvania has invited bids for the purchase of \$10,290,000 of equipment trust certificates, being part of a proposed aggregate principal amount of not exceeding \$18,135,000 of certificates under Pennsylvania Railroad Equipment Trust Series Q, to finance ultimately the construction and acquisition of 45 steam locomotives and tenders, 112 passenger train cars, 300 covered hopper cars and 12 Diesel-electric switching locomotives. Total cost of this equipment, a portion of which will be constructed in the company's shop, is estimated at not less than \$22,668,750, and the balance of the cost will be provided by the company. The certificates will be dated July 1, 1945, and will mature in 15 annual installments, the last maturity to be on July 1, 1960. Bids will be received by the company for the \$10,290,000 of trust certificates up to 12 noon on July 10, 1945, and bidders are asked to name the dividend rate proposed by them for the certificates. The equipment to be covered by this issue includes 20 Class T1 steam locomotives and 45 tenders, 90 units of passenger train equipment, and 300 hopper cars. An application has been filed with the Interstate Commerce Commission for authority to assume liability for the series Q certificates.

SOUTHERN-ATLANTIC COAST LINE.—Trackage Agreement.—Division 4 of the Interstate Commerce Commission has approved the Southern's application for authority to extend from 1952 to 1999 the date of expiration of the agreement under which that road operates under trackage rights over the line of the Atlantic Coast Line from Savannah, Ga., to Jacksonville, Fla., 152.8 miles.

SOUTHERN PACIFIC.—Arizona Eastern Bonds.—Division 4 of the Interstate Com-



All In One Package

The 8 1/2" Air Compressor is a compact compressor plant—complete with all the necessary auxiliaries. The governor to regulate compressor operation, and the F-2 lubricator to provide metered lubrication *when the compressor is running* are mounted right on the compressor.

Initially the installation is easier as less piping and fewer fittings are required. And at shopping periods the whole plant can be removed and replaced in a shorter time, with far less effort.

Refitting and testing of the unit are easier and

make for dependable compressor operation. Assembled right on the compressor, the governor and lubricator can be adjusted with the knowledge that these auxiliaries are functioning . . . *when installed*. And as no piecemeal fitting is required on the locomotive there is every confidence that the compressor plant will function as intended.

Integral mounting of these accessories means easier installation, more dependable compressor operation—greater assurance that the compressor will be on the job from shopping to shopping.

Westinghouse Air Brake Company

Wilmerding, Pa.

merce Commission has authorized the Southern Pacific Company to sell to its subsidiary, the Arizona Eastern, certain of the latter's first and refunding mortgage bonds of 1950 to meet sinking fund requirements. The bonds are held by the parent company unpledged. The amount currently available for this purpose is represented as \$625,948.

VIRGINIAN.—Joint Operation.—Division 4 of the Interstate Commerce Commission has authorized this company to operate jointly with the Chesapeake & Ohio the 5-mile Mill Creek branch of that road's Glen Jean subdivision, in process of construction.

Average Prices Stocks and Bonds

	Last July 2	Last week	Last year
Average price of 20 representative railway stocks..	57.99	60.25	42.17
Average price of 20 representative railway bonds..	99.26	99.52	89.31

Dividends Declared

Atchison, Topeka & Santa Fe.—\$1.50, payable September 1 to holders of record July 27.
Augusta & Savannah.—\$2.50, payable July 2 to holders of record June 15.
Delaware & Hudson.—\$1.00, quarterly, payable September 20 to holders of record August 28.
Gulf, Mobile & Ohio.—\$5.00 preferred, \$2.50, payable July 28 to holders of record July 9.
Richmond, Fredericksburg & Potomac.—6% guaranteed preferred, \$3.00; 7% guaranteed preferred, \$3.50; both semi-annually, both payable June 30 to holders of record June 25.
West Jersey & Seashore.—\$1.50, semi-annually, payable July 2 to holders of record July 15.

Abandonments

CHICAGO, ATTICA & SOUTHERN.—Division 4 of the Interstate Commerce Commission has dismissed the application filed by this road and Dulien Steel Products, Inc., its proprietor, for authority to abandon its entire line from Morocco, Ind., to Veedersburg, 62.1 miles. As noted in *Railway Age* of May 26, page 962, a similar application had been denied previously, without prejudice to a renewal upon "termination of the war." The Secretary of War objected to approval of the renewed application at this time, however, and requested that it be dismissed.

UNION PACIFIC.—The Brotherhood of Maintenance of Way Employees, Brotherhood of Locomotive Firemen & Enginemen, Order of Railway Conductors, and Railway Labor Executives Association have asked the Interstate Commerce Commission to reopen the No. 13780 proceedings, in which a line abandonment by the Oregon-Washington Railway & Navigation was authorized, and to prescribe therein conditions for the protection of any employees adversely affected substantially like those ordered in the Burlington case, 257 I. C. C. 700. In lieu of such action, the unions asked that the commission reserve jurisdiction for such purposes for a further period of two years.

YOSEMITE VALLEY.—Division 4 of the Interstate Commerce Commission has authorized this road to abandon its entire line from Merced, Cal., to El Portal, 77.7 miles, provided it constructs on its right of way a suitable road to connect a barytes mine of the National Lead Company to the state highway. No provision was made in the interest of employees who may be adversely

affected, despite brotherhood requests, in view of the commission's established finding that a carrier cannot be compelled to remain in business merely for the purpose of furnishing employment.

Railway Officers

EXECUTIVE

R. E. Stevenson, executive assistant of the Gulf, Mobile & Ohio at Jackson, Tenn., has been promoted to assistant to the president, with the same headquarters.

G. O. Henricson, general accountant of the Illinois Central at Chicago, has been promoted to assistant to the vice-president, with the same headquarters.

Duncan C. Grant, whose retirement as vice-president, finance and accounting, of the Canadian National at Montreal, Que., was announced in the *Railway Age* of June 30, was born at Toronto, Ont., in 1880, and entered the service of the Bank of Toronto in 1897. For two years he was attached to the branch of the bank at Brockville, Ont., and in 1903 he was transferred



Duncan C. Grant

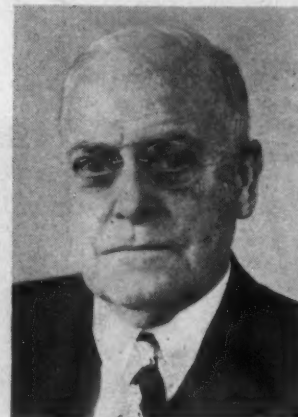
to Montreal, being appointed assistant manager there in 1908. He was transferred to Toronto in 1913, and served as inspector and chief inspector successively from 1915 to 1924. In May of the latter year he was appointed vice-president in charge of finance and accounting of the Canadian National, the position he held at the time of his recent retirement.

As reported in the *Railway Age* of June 30, **Lewis E. Pierson** has been elected chairman of the board of the Missouri-Kansas-Texas to succeed the late Matthew S. Sloan. As such, he will function as chief executive officer. He is a director of the company and a member of the executive committee.

Mr. Pierson began his career as a clerk with the Hanover National Bank of New York in 1885 and was cashier and vice-president between 1898 and 1904. He served as president of the New York National Exchange Bank from 1904 to 1906 and as president of the Irving National Exchange Bank, which was a consolidation of the

New York National Exchange and the Irving National banks, from 1906 to 1912. He was president of Austin, Nichols & Co. from 1913 to 1916. He was chairman of the board of the Irving Trust Company from 1916 to 1939 and has been honorary chairman since then.

Mr. Pierson is a director of the Shell Union Oil Corporation, the Merchants Refrigerating Company, the American



Lewis E. Pierson

Smelting & Refining Co. and the Cruickshank Company. He was vice-president of the New York Chamber of Commerce from 1939 to 1943.

He is a member of the executive committee of the American section of the International Chamber of Commerce and a member of the committee on education and the committee on national defense of the United States Chamber of Commerce. He is a director of the Merchants Association of New York, of which he was president in 1922-23; a director of the National Foreign Trade Council and the Long Island Association, and a member of the American Bankers Association, of which he was president in 1909-10.

T. Harold Cooper, comptroller of the Canadian National at Montreal, Que., has been appointed vice-president and comptroller. **Charles D. Cowie**, treasurer at Montreal, has been appointed vice-president and treasurer.

FINANCIAL, LEGAL AND ACCOUNTING

E. P. Lavelle, assistant auditor of the Wheeling & Lake Erie at Cleveland, Ohio, has been promoted to auditor of revenue with the same headquarters, succeeding **W. B. Johnson**, deceased.

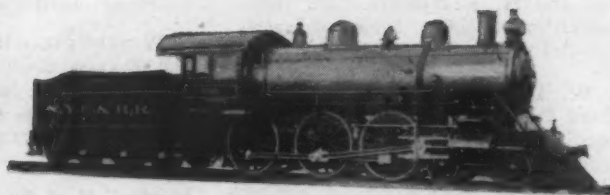
E. E. Kaser has been appointed freight claim agent of the Wheeling & Lake Erie and the Lorain & West Virginia at Cleveland, Ohio, succeeding **Howard Kaser**, who has retired after 43 years of service.

M. J. Hubbard, assistant division engineer of the Chesapeake & Ohio at Columbus, Ohio, has been promoted to division engineer there succeeding **C. F. Edwards**, deceased.

OPERATING

W. E. Lovett, trainmaster of the Rutland, has been named superintendent at

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DAYS**
Until Now



HSGI Has Served THE NEW YORK CENTRAL

In 1910 when many coaches were still lighted by gas, locomotives like the 4-6-0 shown above were the last word on the New York Central Railroad. Progress has since brought electric lighting and vastly improved locomotives, but HUNT-SPILLER GUN IRON still helps to maintain the power and efficiency of New York Central's modern locomotives, just as it did for the engines of 35 years ago.

A generation or more of steady loyalty to a product is a powerful recommendation, especially when 34 other important roads have used HSGI parts for a like period. This is more than ample proof that HUNT-SPILLER GUN IRON *does* resist wear better; *does* promote locomotive efficiency for longer periods.



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for Diesel Service

Dunbar Sectional Type Packing
Duplex Sectional Type Packing
for Cylinders and Valves
(Duplex Springs for Above
Sectional Packing)
Cylinder Snap Rings
Valve Rings, All Shapes

Rutland, Vt., succeeding **E. G. Eklund**, whose change of position is announced elsewhere in these columns. **J. E. Carroll** has been appointed trainmaster and rules examiner, and **H. J. Nichols**, chief train dispatcher, has also been appointed superintendent of telegraph.

P. W. Dornfeld, trainmaster of the Southern Pacific at Colton, Cal., has been promoted to trainmaster at large of the Salt Lake division, a newly-created position. **G. P. McNamara**, trainmaster at Sacramento, Cal., has been advanced to trainmaster at large, with the same headquarters, also a newly-created position. **T. W. Bernard**, assistant trainmaster at Phoenix, Ariz., has been promoted to trainmaster, with headquarters at Sacramento, replacing Mr. McNamara.

Claude M. Martin, whose promotion to superintendent of the Northern division of the Kansas City Southern, with headquarters at Pittsburg, Kan., was reported in the *Railway Age* of June 30, was born at Poplar Bluff, Mo., on January 22, 1900. He entered railway service in June, 1915, as a caller and yard clerk of the Kansas



Claude M. Martin

City Southern at Heavener, Okla., and from 1923 to 1928 he served as telegraph operator and agent at various points of the road. In the latter year Mr. Martin was advanced to telegraph operator and dispatcher and held those positions at different locations until June 14, 1943, when he was promoted to chief dispatcher, the position he held at the time of his new appointment.

TRAFFIC

C. S. Chance has been appointed acting general agent of the Missouri Pacific at Winston-Salem, N. C.

J. B. Hunter has been appointed general agent of the Denver & Rio Grande Western, with headquarters at Reno, Nev.

E. W. Barnes, commercial agent of the Virginian at Norfolk, Va., has been appointed general agent with the same headquarters succeeding **W. E. Gallion**, assigned to other duties.

M. E. Harlan, assistant general passenger agent of the Northern Pacific, with

headquarters at St. Paul, Minn., has been granted a leave of absence to serve with the Office of Defense Transportation as assistant director, passenger traffic, of the rail transport division at Washington, D. C.

C. W. Jernigan, district passenger agent of the Chicago, Rock Island & Pacific at Washington, D. C., has been promoted to assistant general passenger agent, with headquarters at Chicago, succeeding **L. H. McCormick**, who has retired.

Bernard M. Schwartz, city passenger agent at Lincoln, Neb., has been advanced to district passenger agent, with headquarters at Colorado Springs, Colo., replacing **Henry J. Koukal**, who in turn has been transferred to Washington, relieving Mr. Jernigan.

C. J. Harbeke, whose promotion to assistant traffic manager of the Denver & Rio Grande Western, with headquarters at San Francisco, Cal., was reported in the *Railway Age* of June 30, was born at Chatsworth, Ill., on January 5, 1902, and received his higher education at Notre Dame. He entered railway service on April 5, 1920, in the accounting department of the Union Pacific at Salt Lake City, Utah, and in July, 1930, he went with the Salt Lake & Utah, as a city freight agent, with the same headquarters. In June, 1934, Mr. Harbeke became a city freight agent of the Denver & Rio Grande Western, also at Salt Lake City, and five years later he was promoted to perishable freight agent, with headquarters at Los Angeles, Cal., being advanced to general agent at San Francisco, Cal., one year later. On November 30, 1942, he was granted a leave of absence to serve with the Transportation Corps of the U. S. Army in India, and on November 16, 1944, he returned to his former position which he held until his new appointment.

ENGINEERING & SIGNALING

J. L. Charles, principal assistant engineer, western region, of the Canadian National, has been promoted to chief engineer of the western region, with headquarters as before at Winnipeg, Man., succeeding **J. W. Porter**, who has retired after 50 years of service.

J. B. Hunley, engineer of structures of the New York Central, Lines West of Buffalo, with headquarters at Chicago, has been promoted to consulting engineer, with the same headquarters. **G. E. Robinson**, assistant engineer of structures, has been advanced to engineer of structures, with headquarters as before at Chicago, succeeding Mr. Hunley. Mr. Hunley was born at Terre Haute, Ind., on August 12, 1881, and was graduated from the Rose Polytechnic Institute in 1903. In May, 1903, he entered railway service as an assistant engineer in the construction department of the Cleveland, Cincinnati, Chicago & St. Louis, (part of the N. Y. C. System) and in 1905 he was promoted to assistant engineer in the chief engineer's office, later being advanced to office engineer. In 1915, he was promoted to engineer of bridges and structures of the Big Four, with headquarters at Cincinnati, Ohio, and in May, 1940, he was advanced to engineer of structures of the New York

Central, Lines West of Buffalo, the position he held at the time of his new appointment.

MECHANICAL

O. R. Pendy has been appointed assistant chief mechanical officer of the New York, Chicago & St. Louis at Cleveland, Ohio.

E. G. Eklund, superintendent and superintendent of motive power and rolling stock of the Rutland at Rutland, Vt., has been relieved of his duties as superintendent in order that he may devote his full time to the latter position.

A. R. Sykes, master mechanic of the Southern Kansas-Central divisions of the Missouri Pacific, who has been on leave of absence since last December, has returned to his position and his headquarters at Coffeyville, Kan.

SPECIAL

George W. Eastland has been appointed editor of the newly-established employee magazine of the Chicago & North Western, with headquarters at Chicago.

C. G. Massoth, assistant editor of the Illinois Central magazine at Chicago, has been promoted to staff assistant of the public relations agent, with the same headquarters. He will continue in his former position.

John Murray Gibbon, general publicity agent of the Canadian Pacific at Montreal, Que., has retired under the company's pension plan and **J. Hugh Campbell**, western lines press representative, who since October 1, 1942, has been on loan to the Dominion government and in charge of the Canadian Wartime Information Board at Washington, D. C., has been promoted to succeed him.

Dr. Calin A. Walker, chief surgeon and manager of the hospital department of the Southern Pacific, with headquarters at San Francisco, Cal., has retired after 40 years of service. Dr. Walker was graduated from the Cooper Medical College, San Francisco, in 1905 and in the same year he went with the Southern Pacific as a physician and surgeon. During World War I he was granted a leave of absence to serve with the United States Army, and after the armistice he returned to the Southern Pacific in his former capacity. On July 1, 1938, Dr. Walker was promoted to the positions he held at the time of his retirement.

OBITUARY

Thomas Roope, who retired in 1926 as superintendent of motive power of the Chicago, Burlington & Quincy, Lines West, died at Lincoln, Neb., on June 20.

Art Daniels, division engineer of the Chicago, Milwaukee, St. Paul & Pacific at Minneapolis, Minn., died in that city on June 27.

Miss Bessie L. James, for the past 30 years central western press representative of the Canadian Pacific, with headquarters at Chicago, died in a hospital in that city on June 30 following a brief illness.



ALA

SINCE 18

Philadelphia

Denver

July 7, 1945

also, the position
new appointment.

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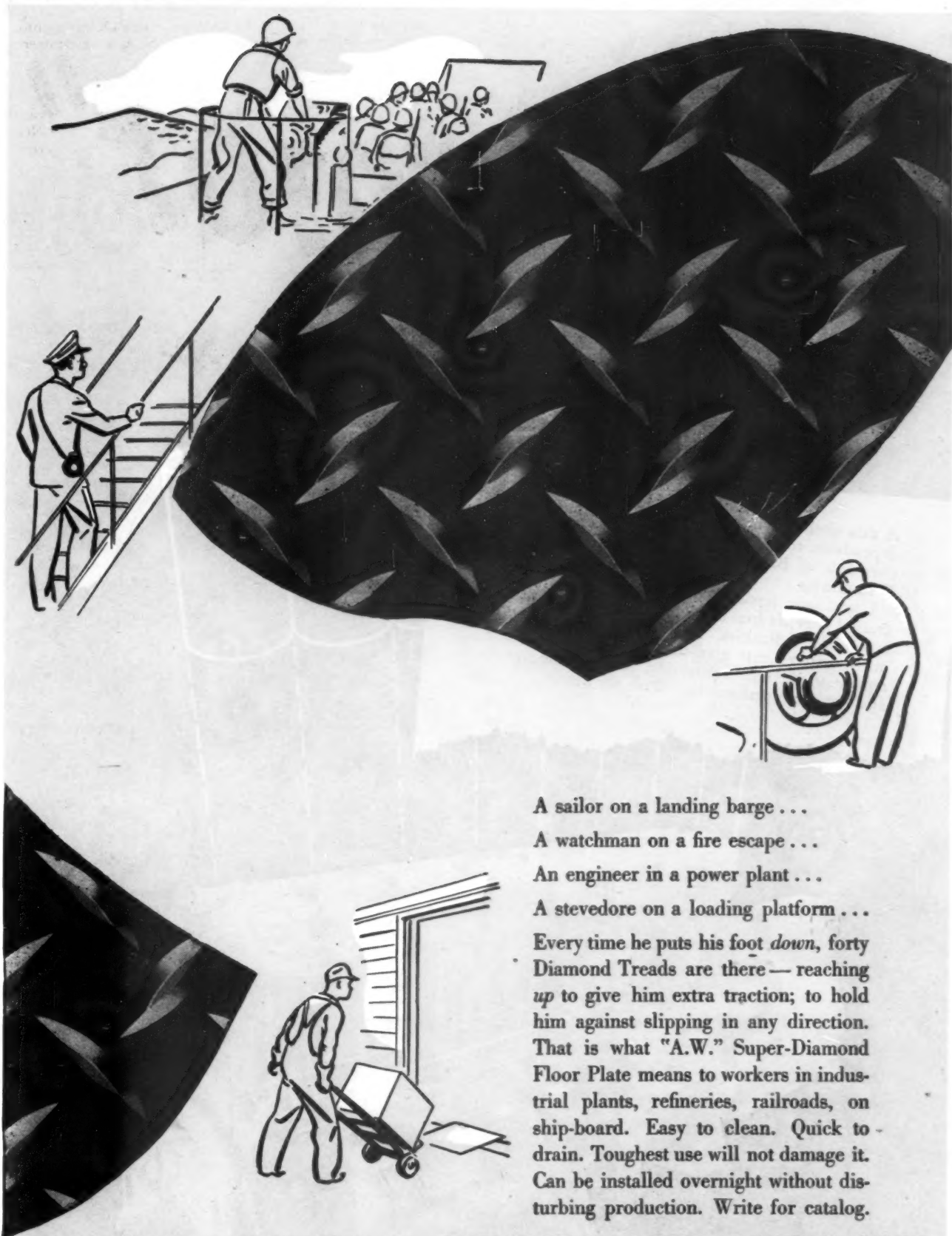
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A sailor on a landing barge . . .

A watchman on a fire escape . . .

An engineer in a power plant . . .

A stevedore on a loading platform . . .

Every time he puts his foot down, forty Diamond Treads are there — reaching up to give him extra traction; to hold him against slipping in any direction. That is what "A.W." Super-Diamond Floor Plate means to workers in industrial plants, refineries, railroads, on ship-board. Easy to clean. Quick to drain. Toughest use will not damage it. Can be installed overnight without disturbing production. Write for catalog.

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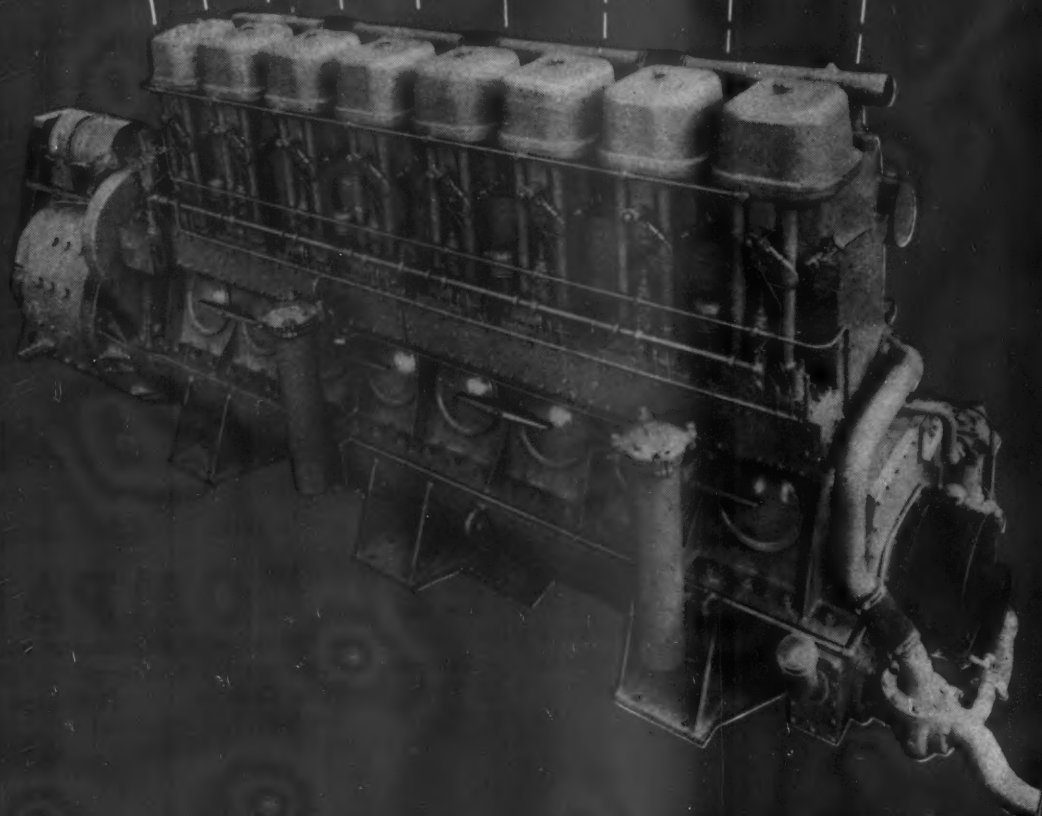
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"Armor"

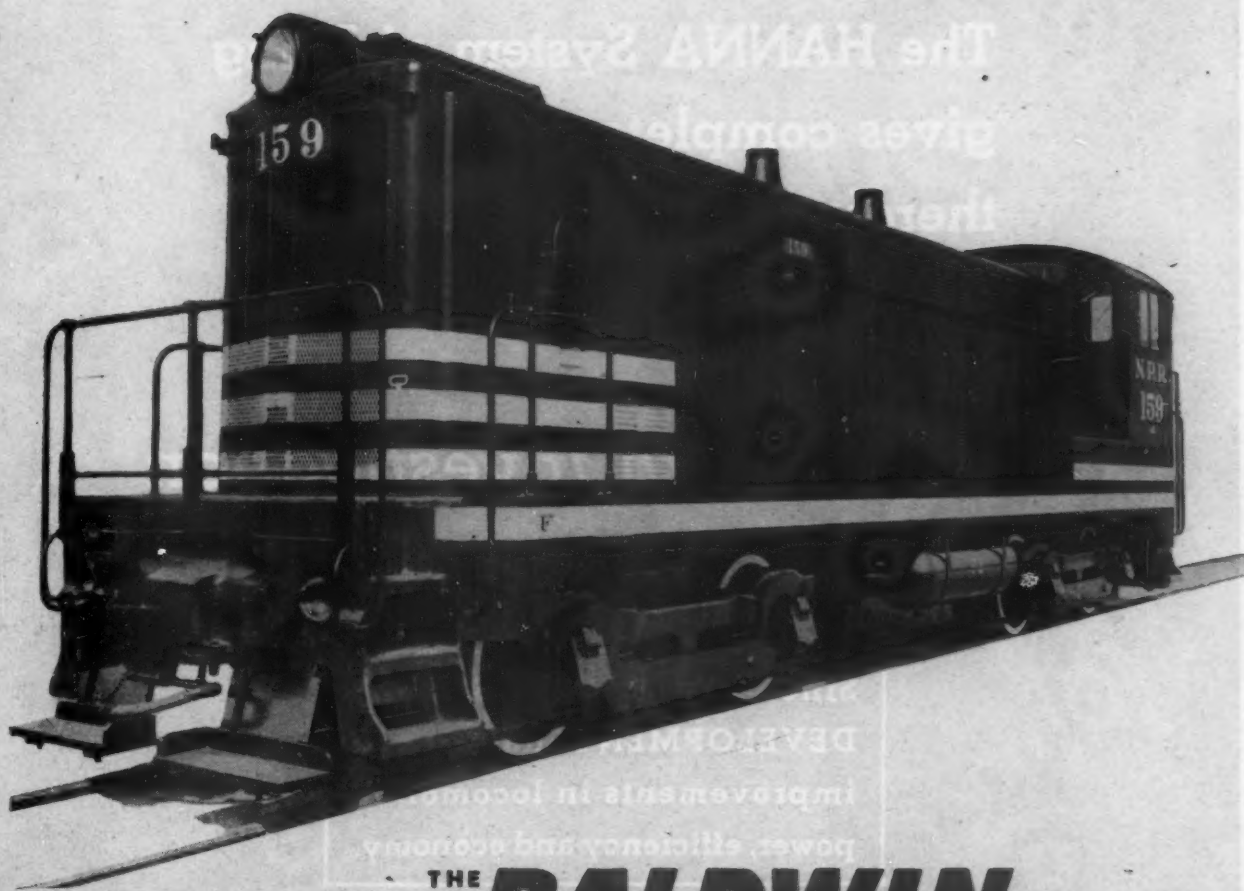
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The HANNA System of Firing
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The automatic block signals that make railroad travel safe today, and have contributed so much to the working of transportation miracles, started long ago... in 1867. And in that same year, Freedom Forge—even then 72 years old—installed another new development to serve the railroads.

In a stone building still standing



today, Freedom Forge installed two new 5-ton Bessemer Converters... the third plant in the country. A rail mill, and a tire mill with a double-acting 10-ton hammer, imported from England, were put into operation.

Throughout the intervening years, this pioneering has continued. The 150 years of experience that started

with Freedom Forge is available to solve your forging and casting problems. "Standardize on Standard" is a proven way to be sure of satisfaction. The Baldwin Locomotive Works, Standard Steel Works Division, Burnham, Pa., U.S.A. Offices: Philadelphia, New York, Boston, Washington, Cleveland, Detroit, St. Louis, San Francisco, Houston, Pittsburgh, Chicago.



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Globe boiler and pressure tubes are real "Railroaders." Their extra margin of safety and strength meets modern high pressure and temperatures — vital to the super-performance of railroads in wartime. Many modern streamlined locomotives in freight and passenger service are equipped with Globe tubes and flues because they meet the strict requirements so necessary to keep American Railroads operating on schedule. Globe engineers will be glad to assist you in selecting the steel tubes and flues best suited to your needs.

Railroads all over America are handling a tremendous volume of traffic — and doing a masterful job of it. In face of the terrific strain on men and equipment, their wartime pace has never slackened. A real tribute to the men who keep 'em rolling!

- ★ STAINLESS TUBES
- ★ BOILER TUBES
- ★ GLOBEIRON TUBING
- ★ GLOWELD TUBES



- ★ CONDENSER AND HEAT EXCHANGER TUBES
- ★ MECHANICAL TUBING

GLOBE STEEL

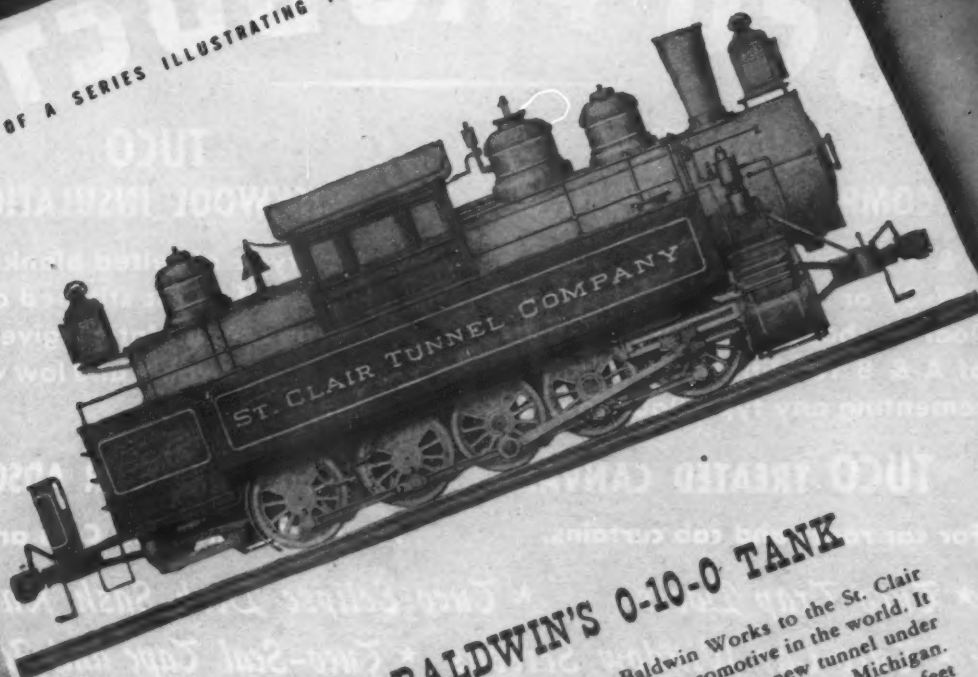
Tubes

GLOBE

STEEL TUBES CO., Milwaukee 4, Wis., U. S. A.

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1891—BALDWIN'S 0-10-0 TANK

When this engine was delivered by the Baldwin Works to the St. Clair Tunnel Company in 1891, it was the heaviest locomotive in the world. It was designed to haul heavy freight trains through the new tunnel under the St. Clair River between Sarnia, Ontario, and Port Huron, Michigan. This bore was 6,000 feet long with approach grades averaging 105 feet to the mile. The engine was well designed, all of its weight being available for traction. All wheels with the exception of the center pair were flanged and had brakes. Hard coal was used as fuel . . . Weight 195,000 pounds. Drivers 50 inches in diameter. Total wheelbase 18 feet, 5 inches. Tractive force 58,000 pounds.

From "IRON HORSES" . . . W. W. NORTON & CO., INC.



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THE WORLD'S HEAVIEST LOCOMOTIVE

packed a lot of push in her time. But today's locomotives of equal tractive force are doing a much better job with . . .

UNION WEB SPOKE DRIVING WHEEL CENTERS

- ★ Cruciform section spokes for great additional strength.
- ★ Reinforced rim support to eliminate flat spots, out of roundness, etc.
- ★ Correct distribution of metal for better balancing of smaller diameter wheels.
- ★ Wheels easily inspected before and after installation.
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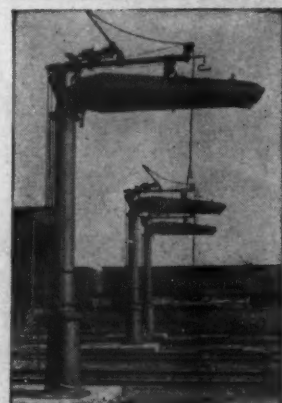
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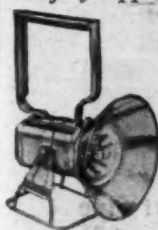
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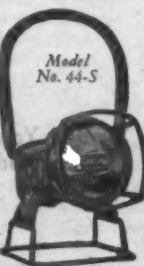
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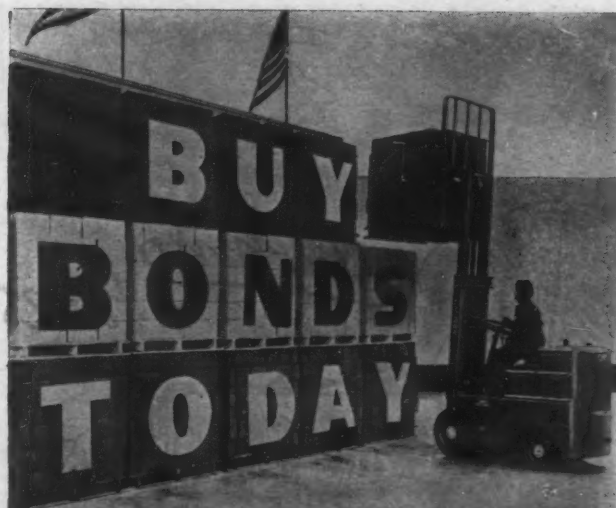
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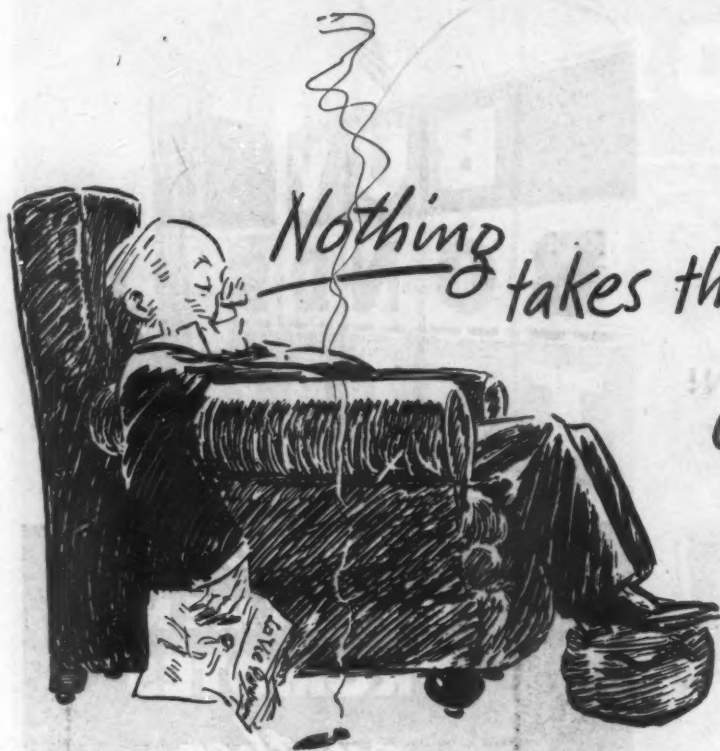
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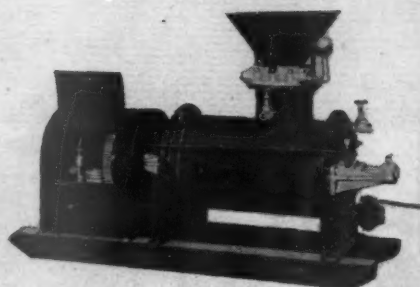
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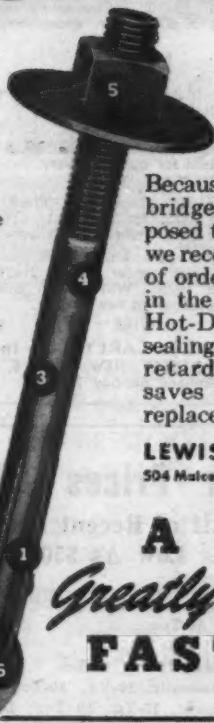
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